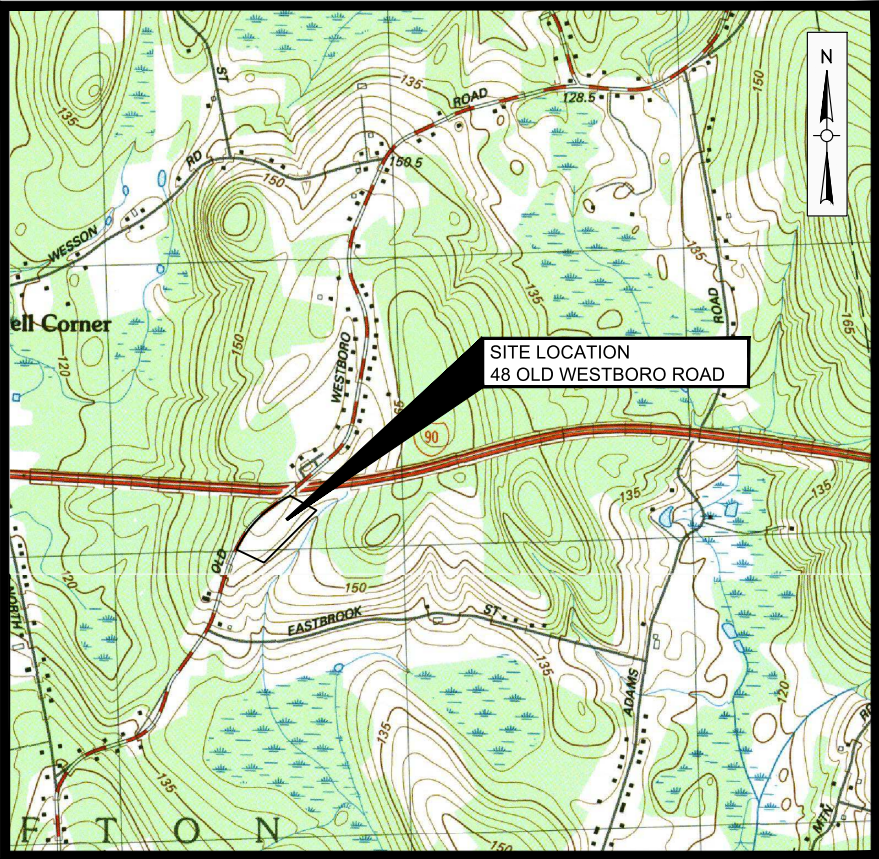


GRAFTON, MA

DEPARTMENT OF PUBLIC WORKS
FACILITY

SITE PLAN REVIEW



LOCUS MAP
SCALE: 1"=1000'

DRAWING INDEX

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Lot Coverage Calculations		
Area Type	Total Area (SQFT)	Percent of Lot
48 Old Westboro Road Lot	2,047,107	100%
Buildings	38,600	1.89%
Pavement	94,914	4.64%
Open Space/ Landscaped	1,913,593	93.5%

Parking Calculations			
Use	# of Employees on maximum shift	Required Parking spots	Proposed Parking Spots
Transportation Industrial and Utility Use	12	15.6	23
* Parking Spot Required base on Grafton Zoning By-laws Section 4.2.2 Off-Street Parking Schedule			

Grafton, MA Zoning Requirements Table			
Residential (R-40)	Required	Existing	Proposed
Minimum Lot Area	40,000 sf	2,047,107 sf	2,047,107 sf
Minimum Frontage	140 ft	1,705 ft	1,705 ft
Minimum Front Setback	30 ft	N/A	34.46 ft
Minimum Side Setback	30 ft*	N/A	167.47 ft
Minimum Rear Setback	15 ft	N/A	745.36 ft
Maximum Building Height	35 ft	N/A	40 ft**
Maximum Building Coverage	30%	N/A	2%
Unoccupied Space	25%	100%	93%
* 3.2.3.4 Any structure located on a corner lot shall be set back from all streets a distance equal to the front yard setback requirement in the district. (The site is located at the intersection of Estabrook Ave and Old Westboro Rd and will therefore require a minimum setback, from both streets, of 30 feet)			
** Height variance being submitted to ZBA			



JUNE 2018



Weston & Sampson Engineers, Inc.
5 Centennial Drive, Peabody, MA 01960

P:\MA\Grafton_MA\2180199 Grafton DPM\040\0_Current Design-Grafton DPM\Permit - Site Plan Review\COO-GN.dwg

GENERAL NOTES

- TOPOGRAPHICAL INFORMATION BASED UPON SURVEY PERFORMED BY LAND PLANNING, INC ON MAY 3 2018. THE HORIZONTAL DATUM IS NAD83, AND THE VERTICAL DATUM IS NAVD83.
- REFER TO EXISTING CONDITIONS FOR SURVEY LEGEND. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.
- LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO RECEIVE SITE IMPROVEMENTS.
- ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS. EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
- ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
- ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
- ALL WORK SHOWN ON THE PLANS AS BOLD SHALL REPRESENT PROPOSED WORK. THE TERM "PROPOSED" (PROPY) INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)", OR REMOVE, RELOCATE, RESET, (R,R&R).
- ALL KNOWN EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND ARE INDICATED ON THE PLANS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
- THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
- FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUYS SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
- TREES AND SHRUBS WITHIN THE LIMITS OF WORK SHALL BE REMOVED ONLY UPON THE APPROVAL OF THE ENGINEER OR AS NOTED ON THE PLANS.
- THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
- NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
- THE CONTRACTOR SHALL REMOVE ALL SURFACE VEGETATION PRIOR TO GRADING THE SITE. STUMPS SHALL BE STOCKPILED ON SITE FOR DISPOSAL BY THE GC. TEMPORARY EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS INCLUDING SILT FENCE, COMPOST FILTER TUBES SHALL BE INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE PROJECT WHICH COST SHALL BE INCIDENTAL TO THE PROJECT.
- ALL UNSUITABLE UNCONTAMINATED EXCESS SOIL FROM CONSTRUCTION ACTIVITIES SHALL BE STOCKPILED ON SITE, AS DIRECTED BY THE TOWN, AT NO ADDITIONAL COST TO THE OWNER. REMOVAL ACTIVITIES SHALL BE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS AT NO ADDITIONAL COST TO THE OWNER. SUITABLE SOIL EXCAVATION AS PART OF THE PROJECT MUST MEET ONE OR MORE OF THE MATERIAL REQUIREMENTS SPECIFIED IN 31 23 00-EARTHWORK, ON-SITE FILL MATERIALS, WHICH DO NOT CONFORM TO SPEC 31 23 00, SHALL NOT BE USED BELOW ANY STRUCTURES. IF THE CONTRACTOR PROPOSES TO USE THE EXISTING FILL ON SITE BELOW PAVEMENT AREAS, HE MUST DEMONSTRATE THAT THE FILL MEETS THE REQUIREMENTS PER SECTION 31 23 00 OF THE SPECIFICATIONS. ALL EXCAVATED FILL MATERIAL WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE REMOVED AND DISPOSED OF OFF-SITE AT NO ADDITIONAL COST.
- CONTRACTOR IS RESPONSIBLE FOR STAKING CONSTRUCTION BASELINES IN FIELD. NO CONSTRUCTION WILL BE PERFORMED WITHOUT THE PROPOSED BASELINES AND LAYOUTS APPROVED BY THE ENGINEER.
- NO FILL SHALL CONTAIN HAZARDOUS MATERIALS.
- CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND PERIMETER OF WORK AREA (LIMIT OF WORK). FENCE SHALL NOT IMPEDIE TRAVEL WAYS.
- ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
- REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
- CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
- THE CONTRACTOR SHALL KEEP ALL STREETS, PARKING LOTS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER.
- THE LIMIT OF WORK SHALL BE DELINEATED IN THE FIELD PRIOR TO THE START OF SITE CLEARING OR CONSTRUCTION.
- DEEP SUMP CATCH BASINS AND STORMWATER BASIN SHALL BE CLEANED FOLLOWING CONSTRUCTION AND SHALL FOLLOW THE OPERATION AND MAINTENANCE PLAN THEREAFTER.
- HAULING OF EARTH MATERIALS TO AND FROM THE SITE SHALL BE RESTRICTED TO THE HOURS OF 7:00 AM TO 5:00 PM MONDAY THROUGH FRIDAY.
- ANY BOLLIDERS 3 CY OR SMALLER SHALL BE CONSIDERED UNDOCUMENTED FILL AND SHALL BE DISPOSED OF AT NO ADDITIONAL COST TO THE OWNER.
- WORK ON SATURDAYS SHALL ONLY BE CONDUCTED IF PRIOR WRITTEN PERMISSION IS PROVIDED BY THE TOWN.
- THE TERM "AS DIRECTED" AS USED IN THE CONTRACT DRAWINGS SHALL BE REPLACED WITH "AS REQUIRED".

EROSION AND SEDIMENT CONTROL NOTES

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION, REFER TO PLAN FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE TOWN OF GRAFTON WETLAND ORDINANCE REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
- EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
- ALL CATCH BASINS AND DRAIN GRATES WITHIN LIMIT OF CONTRACT SHALL BE PROTECTED WITH FILTER FABRIC DURING THE ENTIRE DURATION OF CONSTRUCTION.
- EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE SITE PREPARATION PLAN, NOTES, DETAILS AND SPECIFICATIONS.
- ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.
- ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC/Private ROADS.

DEMOLITION & SITE PREPARATION NOTES

- THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
- THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL ALLOW ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
- UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC. TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
- ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD, ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
- DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN. OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
- IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
- ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
- "CLEAR AND GRUB VEGETATION" SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
- TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
- LOAM / TOP SOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
- THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN. CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LAYOUT & MATERIALS NOTES

- REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEET C1.00).
- COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
- ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY TOWN".
- TO FACILITATE LAYOUT OF PROPOSED SITE FEATURES AND FACILITIES, LAYOUT INFORMATION FOR CERTAIN FUTURE WORK, WHICH IS NOT INCLUDED WITHIN THE SCOPE OF THIS CONTRACT HAS BEEN PROVIDED ON THE LAYOUT AND MATERIALS PLAN FOR INFORMATION ONLY. THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. SOME ITEMS ARE "NOT IN CONTRACT" (NIC) AND SHOWN FOR REFERENCE ONLY.
- THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- THE LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR 521, AND THE AMERICANS WITH DISABILITIES ACT (ADA). TITLE 3, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
- ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
- ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS REQUIRED, AT NO ADDITIONAL COST TO THE OWNER.
- ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT. SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
- THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 12" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED.
- ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO HYDROMULCH SEEDED LAWN.
- REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.

GRADING, UTILITIES & DRAINAGE NOTES

- ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE TOWN OF GRAFTON.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED GRAVEL SURFACE MEETS EXISTING SURFACE. BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
- CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
- ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS. WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF PERCENT (1.5%) AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 5% MAX.
- MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER PRIOR TO CONTINUING WORK.
- ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/Private STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
- EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
- WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
- RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
- SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.
- FOR STRUCTURE REMODELING (REMOD), CONSTRUCTION METHODS SHALL FOLLOW MASSACHUSETTS DOT STANDARD SPEC, LATEST EDITION (SECTION 220)

ABBREVIATIONS

GENERAL

PROP
ADJ
BIT, CONC.
CEM. CONC.
B
N.T.S.
B.M.
ABAN
MB
GRAN, CURB
EXIST.
(OR EX.)
FON
F.L.
(OR F)
R
P.W.M.
P.W.V.
RC
M.H.B.
REM
REMOD
RET
R.O.W.
R&R
R&R
R&S
R&D
SB
NIC
H.C.
WCR
FF
HMA
G.C.
E.C.
P.C.
SWEL
BWLL
SYEL
SB/DH
CLF
TEMP.
TYP.
EQ
H.C.
EQP
PROT
CTE
RL
L.O.W.
VIF
APPROX.
TBM
ALT.

PROPOSED
ADJUST
BITUMINOUS CONCRETE
CEMENT CONCRETE
BASELINE
NOT TO SCALE
BENCH MARK
ABANDON
MAIL BOX
GRANITE CURB
EXISTING
FOUNDATION
FLOW LINE
PROPERTY LINE
PAVEMENT
PAVED WATERWAY
REINFORCED CONCRETE
MASSACHUSETTS HIGHWAY BOUND
REMODEL
RETAIN
RIGHT-OF-WAY
REMOVE AND RESET
REMOVE, RELOCATED AND RESET
REMOVE AND STACK
REMOVE AND DISPOSE
STONE BOUND
NOT IN CONTRACT
HANDICAP
WHEELCHAIR RAMP
FINISHED FLOOR
HOT MIX ASPHALT
GENERAL CONTRACTOR
ELECTRICAL CONTRACTOR
PLUMBING CONTRACTOR
SOLID WHITE EDGE LINE
BROKEN WHITE LANE LINE
SOLID YELLOW EDGE LINE
STONE BOUND/ DRILL HOLE
CHAIN LINK FENCE
TEMPORARY
TYPICAL
EQUIPMENT
HANDICAP
EDGE OF PAVEMENT
PROTECT
CONNECT TO EXISTING
ROOF LEADER
LIMIT OF WORK
VERIFY IN FIELD
APPROXIMATE
TEMPORARY BENCHMARK
ALTERNATE

UTILITIES

GICI
CBCI
C.I.T.
CITE
F&G
F&C
CI
CIP
CMP
DI
SI
ACCM PIPE
HYD
INV. ELEV.
UP
SMH
WG
DS
HDPE
PVC
RCP
DIH
LB
LG
CI
OCS
OGT
VC
LP
OHW
UPLP
SWTU
HH
GW
CO
LC
GV
GALV.
F&I
BGS

GUTTER INLET W/ CURB INLET
CATCH BASIN W/ CURB INLET
CATCH BASIN
CHANGE IN TYPE
CONNECT TO EXISTING
FRAME AND GRATE
FRAME AND COVER
CURB INLET
CAST IRON PIPE
CORRUGATED METAL PIPE
DUCTILE IRON PIPE
GUTTER INLET
ASPHALT COATED CORRUGATED METAL PIPE
HYDRANT
INVERT ELEVATION
UTILITY POLE
SEWER MANHOLE
WATER GATE
DOWN SPOUT
HIGH DENSITY POLYETHYLENE PIPE
POLYVINYL CHLORIDE
REINFORCED CONCRETE PIPE
DRAIN MANHOLE
LEACHING BASIN
LEACHING GALLEY
CAST IRON
OUTLET CONTROL STRUCTURE
OIL AND GRIT TRAP
VITRIFIED CLAY PIPE
LIGHT POLE
OVERHEAD WIRE
UTILITY POLE WITH LIGHT
STORM WATER TREATMENT UNIT
HANDHOLE
GARAGE WASTE
CLEANOUT
LEACHING CHAMBER
GATE VALVE
GALVANIZED
FURNISH & INSTALL
BELOW GRADE SURFACE

ALIGNMENT/GRADING

BW
BC
PI
PC
PT
PRC
PCC
PVI
PVC
PVT
ELEV
CC
H.P.
L.P.
R
S.S.D.
TC
TW

BOTTOM OF WALL
BOTTOM OF CURB
POINT OF INTERSECTION
POINT OF CURVATURE
POINT OF TANGENCY
POINT OF REVERSE CURVATURE
POINT OF COMPOUND CURVATURE
POINT OF VERTICAL INTERSECTION
POINT OF VERTICAL TANGENCY
ELEVATION
CENTER OF CURVE
HIGH POINT
LOW POINT
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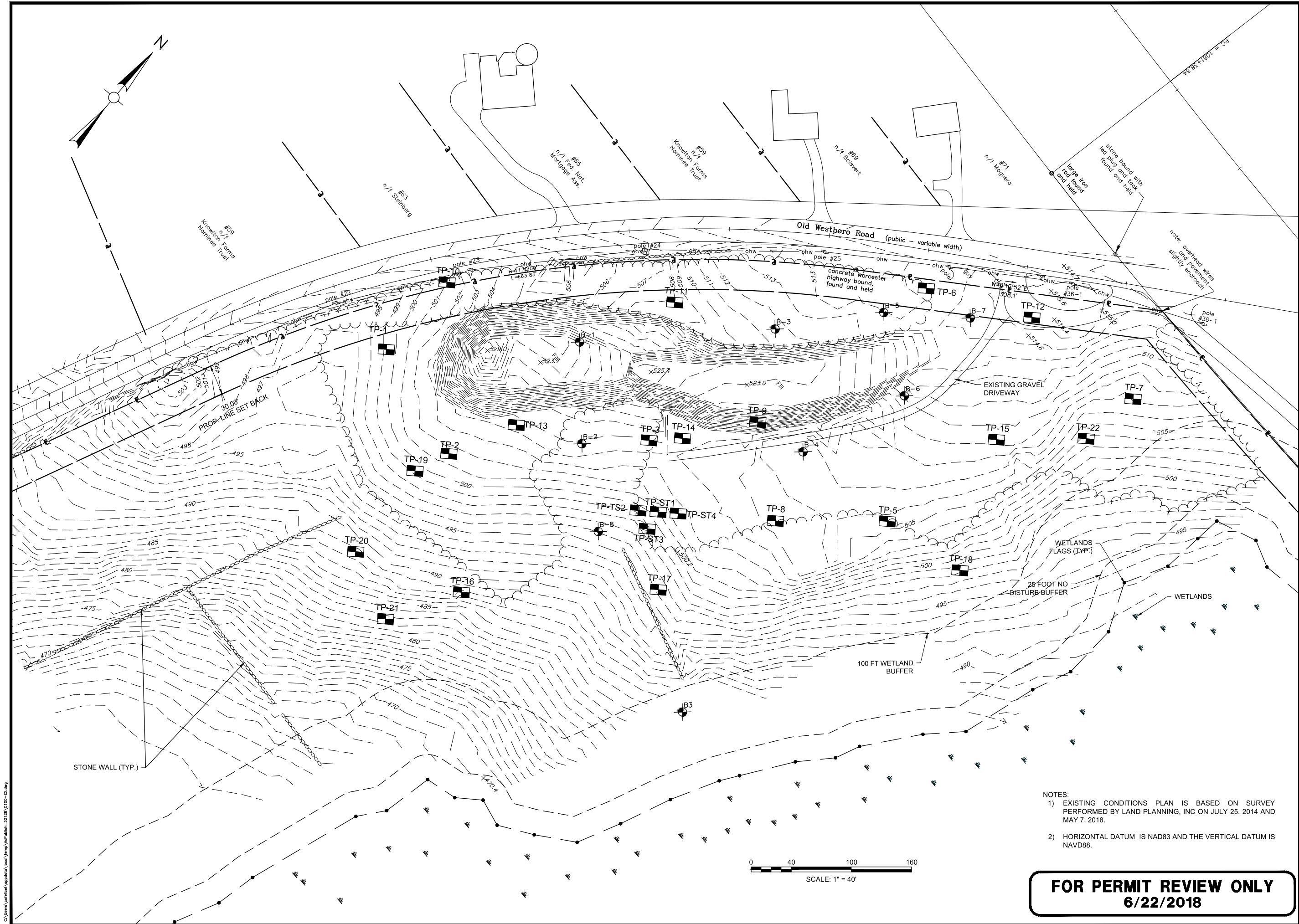
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Project:
TOWN OF GRAFTON



DEPARTMENT OF PUBLIC WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519


OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12

Weston & Sampson
Weston & Sampson Engineers, Inc.
Five Centennial Drive,
Peabody, MA 01960
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:		
No.	Date	Description

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Drawn By: TJC

Reviewed By: JIP

Approved By: JRF

W&S Project No: 2180199

W&S File No: -

Drawing Title:

**EXISTING
CONDITIONS
PLAN**

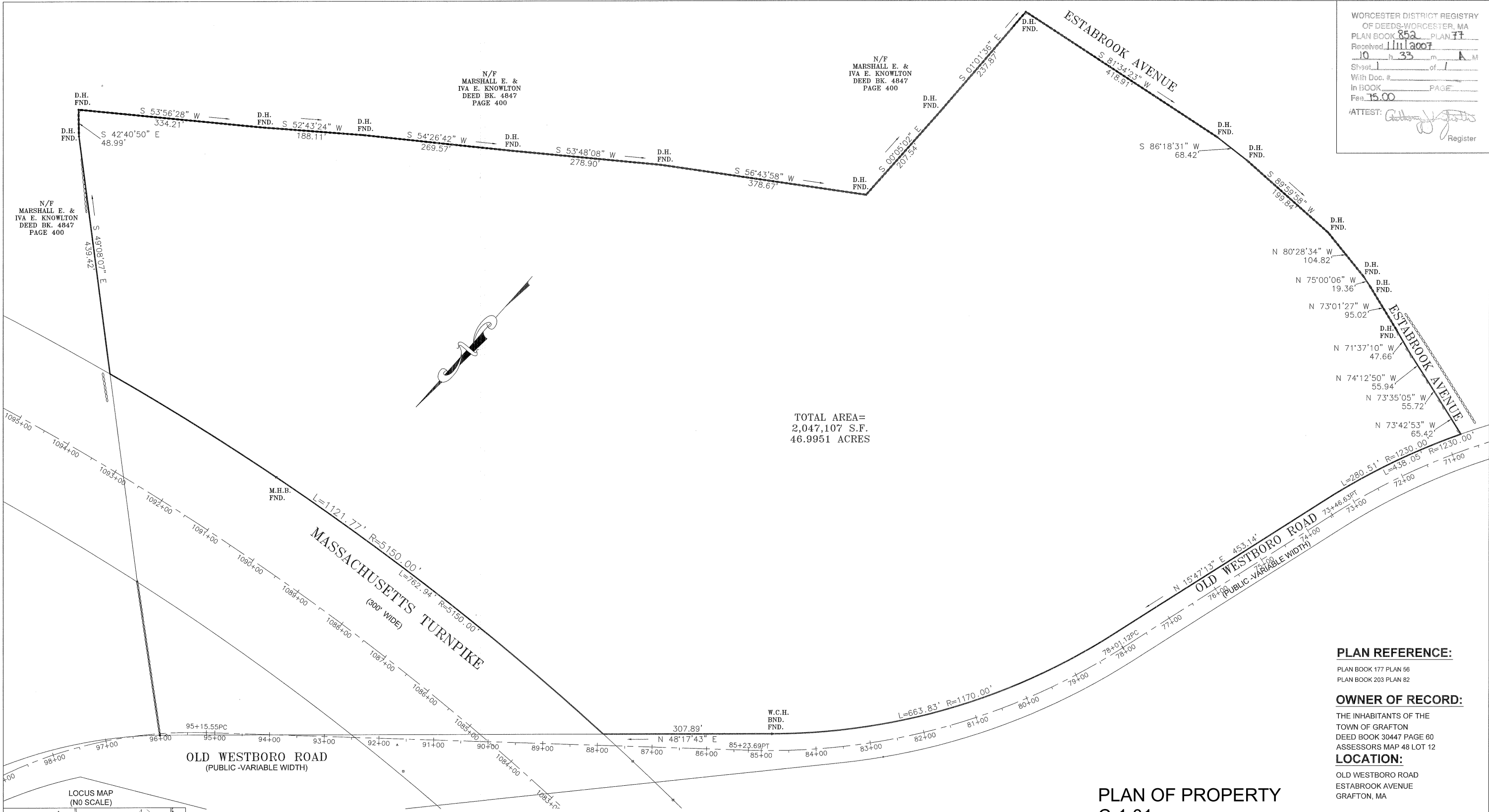
Sheet Number:

C1.00

NOTES:
1) EXISTING CONDITIONS PLAN IS BASED ON SURVEY PERFORMED BY LAND PLANNING, INC ON JULY 25, 2014 AND MAY 7, 2018.
2) HORIZONTAL DATUM IS NAD83 AND THE VERTICAL DATUM IS NAVD88.

**FOR PERMIT REVIEW ONLY
6/22/2018**

WORCESTER DISTRICT REGISTRY
OF DEEDS-WORCESTER, MA
PLAN BOOK 852 PLAN 77
Received 11/1/2007
10 h 33 m A.M.
Sheet 1 of 1
With Doc. #
In BOOK PAGE
Fee 15.00
ATTEST: *Anthony J. [Signature]*
Register



TOTAL AREA=
2,047,107 S.F.
46.9951 ACRES

PLAN REFERENCE:

PLAN BOOK 177 PLAN 56
PLAN BOOK 203 PLAN 82

OWNER OF RECORD:

THE INHABITANTS OF THE
TOWN OF GRAFTON
DEED BOOK 30447 PAGE 60
ASSESSORS MAP 48 LOT 12

LOCATION:

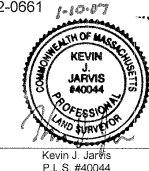
OLD WESTBORO ROAD
ESTABROOK AVENUE
GRAFTON, MA

**PLAN OF PROPERTY
C-1.01**

JARVIS LAND SURVEY, INC

29 Grafton Circle
Shrewsbury, MA 01545
Tel. (508) 842-8087 Fax. (508) 842-0661

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS IN THE COMMONWEALTH OF MASSACHUSETTS AND IN COMPLIANCE WITH THE RULES AND REGULATIONS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS. THIS CERTIFICATION IS INTENDED TO MEET THE REQUIREMENTS OF THE REGISTRY OF DEEDS AND IS NOT A CERTIFICATION OF THE TITLE OR OWNERSHIP OF THE LAND SHOWN HEREON.



PLAN OF PROPERTY
SURVEYED FOR
THE INHABITANTS OF THE
TOWN OF GRAFTON
OLD WESTBORO ROAD
ESTABROOK AVENUE
GRAFTON, MASSACHUSETTS

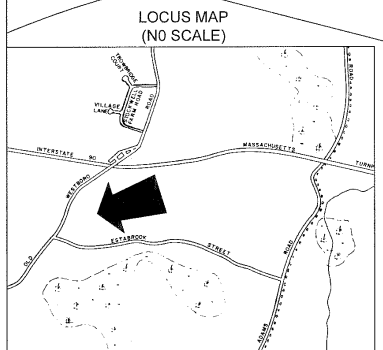
DATE:	CHECK:	CALC:	FIELD:	N.B. #	PLAN:
1/04/07	K.J.J.	K.J.J.	R.P.M.	163-44	03-561
0'	80'	160'	240'		

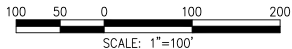
SCALE: 1 INCH = 80 FEET

I HEREBY CERTIFY THAT THE PROPERTY LINES SHOWN ON THIS PLAN ARE THE LINES DIVIDING EXISTING OWNERSHIPS, AND THE LINES OF THE STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

1-10-07
DATE

Kevin J. Jarvis
P.L.S. #40044





Project:

TOWN OF GRAFTON



DEPARTMENT OF PUBLIC
WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12

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Consultants:

[illegible]

Seal:



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Scale: AS NOTED

Date: JUNE 22, 2018

Dealing with Data

Drawn By:

Reviewed By

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50	50	70	90	110	130	140	150	160	170	180
60	60	80	100	120	140	160	170	180	190	200
70	70	90	110	130	150	170	190	200	210	220
80	80	100	120	140	160	180	200	210	220	230
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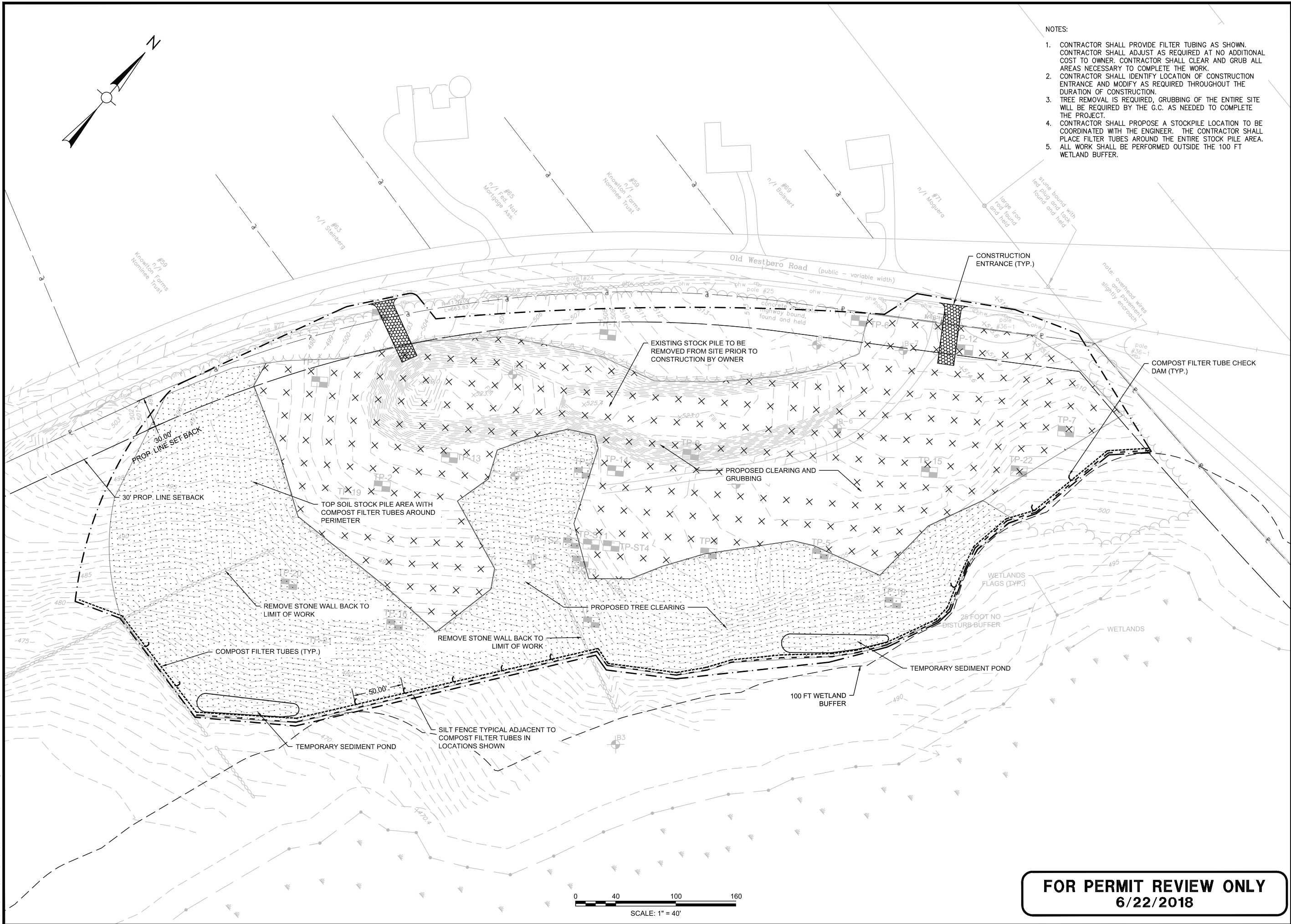
W&S Project

Drawing Title

PLOT PLAN

Discussion

C1.02



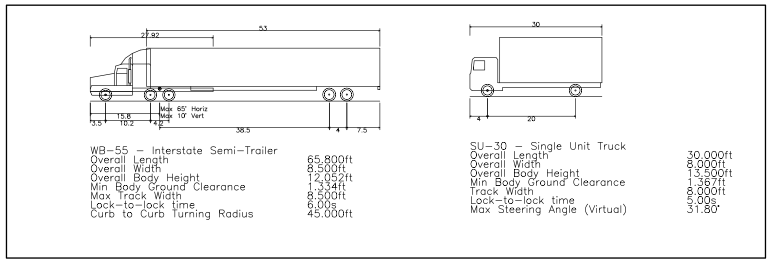
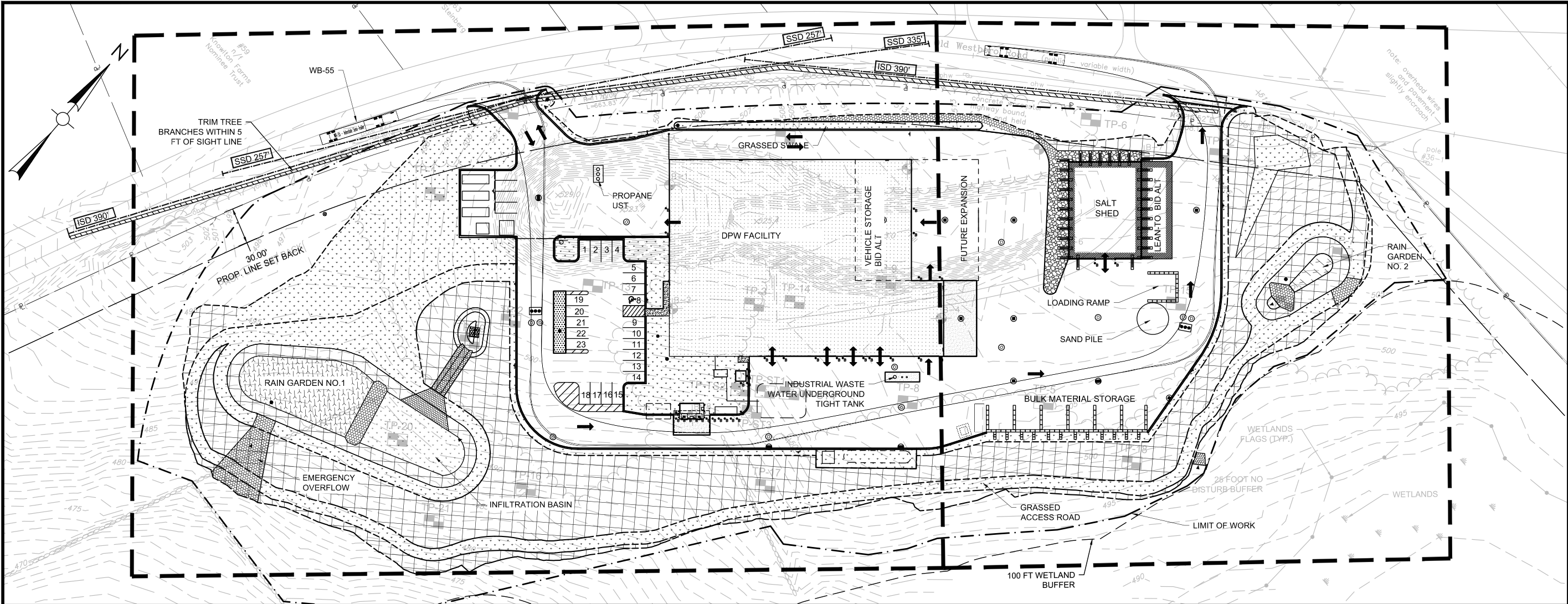
1. CONTRACTOR SHALL PROVIDE FILTER TUBING AS SHOWN. CONTRACTOR SHALL ADJUST AS REQUIRED AT NO ADDITIONAL COST TO OWNER. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS NECESSARY TO COMPLETE THE WORK.
2. CONTRACTOR SHALL IDENTIFY LOCATION OF CONSTRUCTION ENTRANCE AND MODIFY AS REQUIRED THROUGHOUT THE DURATION OF CONSTRUCTION.
3. TREE REMOVAL IS REQUIRED, GRUBBING OF THE ENTIRE SITE WILL BE REQUIRED BY THE G.C. AS NEEDED TO COMPLETE THE PROJECT.
4. CONTRACTOR SHALL PROPOSE A STOCKPILE LOCATION TO BE COORDINATED WITH THE ENGINEER. THE CONTRACTOR SHALL PLACE FILTER TUBES AROUND THE ENTIRE STOCK PILE AREA.
5. ALL WORK SHALL BE PERFORMED OUTSIDE THE 100 FT WETLAND BUFFER.

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C2.00

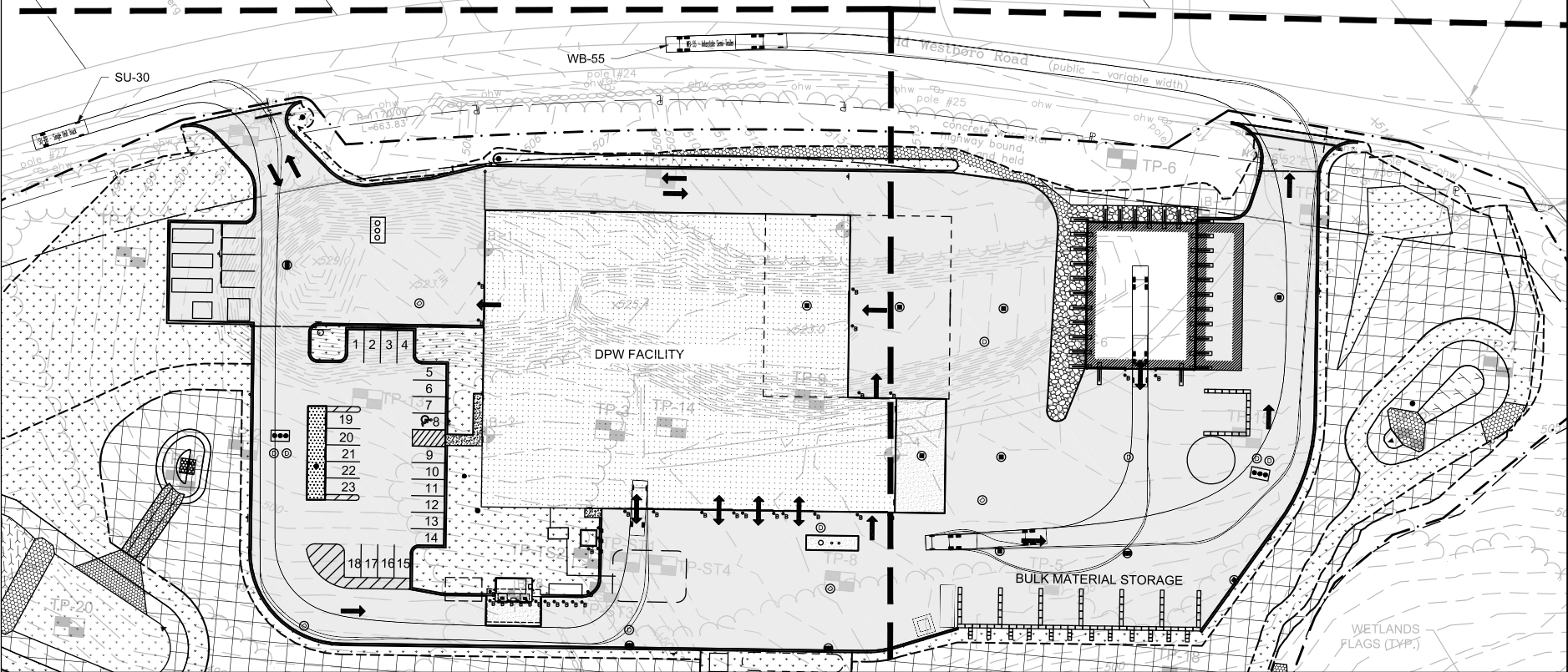
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6/22/2018

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DESIGN SPEED FORWARD = 5 MPH
DESIGN SPEED REVERSE = 2.5 MPH

- NOTES:
- EXISTING SITE CONDITIONS SHOWN ARE FROM GROUND SURVEYS CONDUCTED BY LAND PLANNING INC. ON JULY 25, 2014 AND MAY 7, 2018.
 - HORIZONTAL DATUM IS NAD83, THE VERTICAL DATUM IS NAVD88.
 - PROVIDE 5" HMA PAVING BELOW SALT SHED AND TRAFFIC AREA AS SHOWN ON C3.01 AND C3.02.
 - PROVIDE NEW HOT MIX ASPHALT PAVEMENT BETWEEN ALL PROPOSED CURB LINES & BUILDINGS.
 - G.C. IS REQUIRED TO COORDINATE THE LOCATION OF THE SALT SHED LOADING RAMP WITH OWNER PRIOR TO CONSTRUCTION OF RAMP.
 - CONTRACTOR SHALL PROVIDE TEMPORARY CONSTRUCTION SIGNAGE AS REQUIRED FOR CONTROL OF TRAFFIC AND PEDESTRIANS.
 - ALL BACKFILL MATERIAL BELOW PROPOSED BUILDINGS SHALL CONSIST OF STRUCTURAL AGGREGATE BACKFILL OR PROCESSED GRAVEL PER SPECIFICATION SECTION 31 23 00-EARTHWORK.
 - ALL WORK SHALL BE OUTSIDE OF THE 100 FT WETLAND BUFFER.



0 40 100 160
SCALE: 1" = 40'

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6/22/2018

Project:
TOWN OF GRAFTON



DEPARTMENT OF PUBLIC
WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12

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Consultants:

Revisions:

No.	Date	Description

Seal:



Issued For:

PERMITTING

Scale: AS NOTED

Date: JUNE 22, 2018

Drawn By: TJC

Reviewed By: JIP

Approved By: JRF

W&S Project No: 2180199

W&S File No: -

Drawing Title:

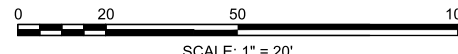
LAYOUT AND
MATERIALS
PLAN /
TURNING
TEMPLATES

Sheet Number:

C3.00

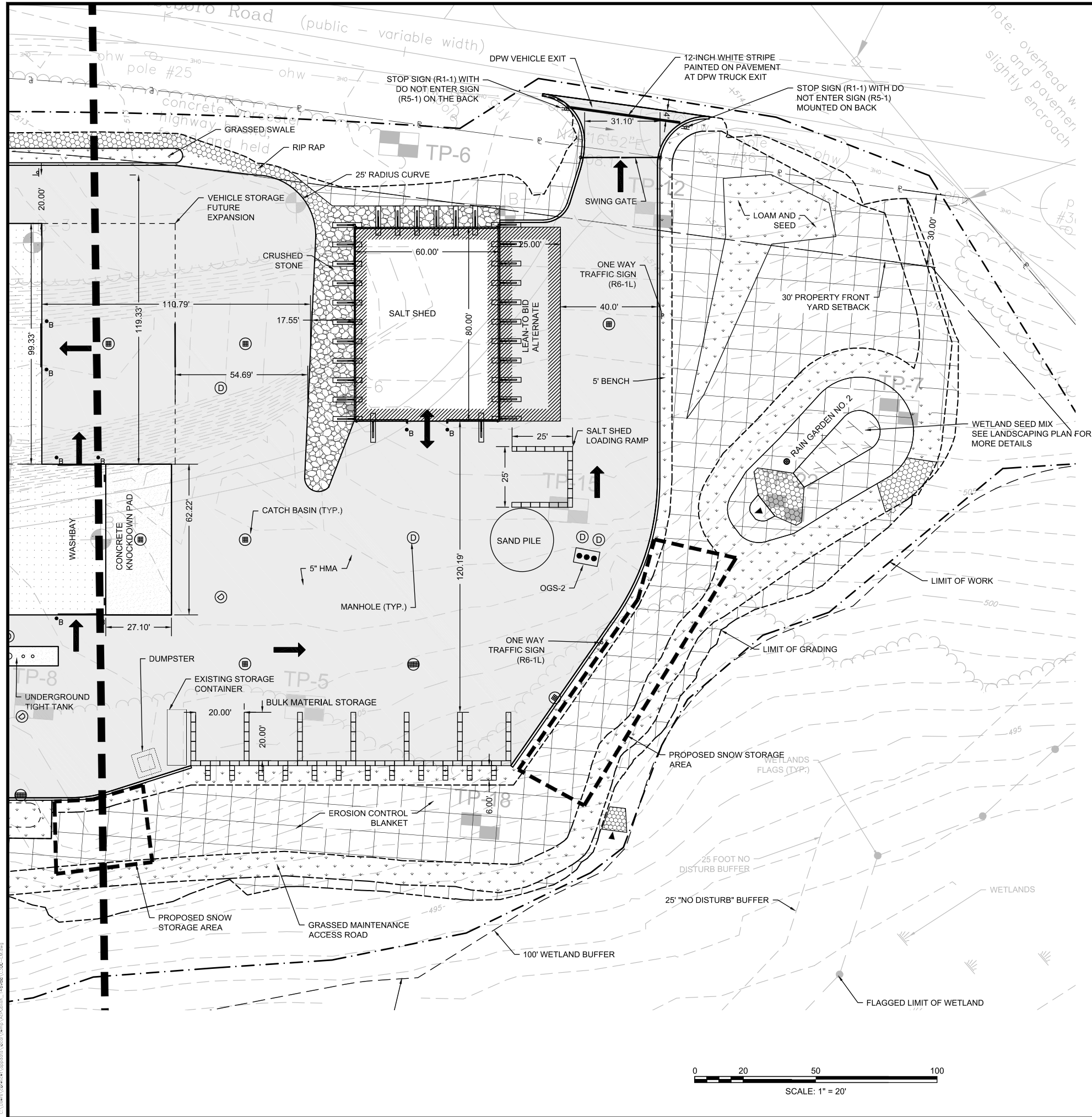
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1. SEE LAYOUT AND MATERIAL NOTES ON C3.00.
2. BID ALTERNATES ARE SUBJECT TO PROJECT FUNDING.

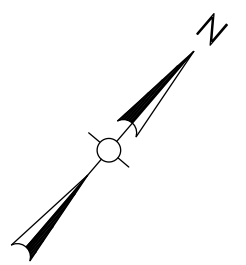


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6/22/2018


C3.01



- NOTES:
1. FOR LAYOUT AND MATERIAL NOTES, SEE C3.00.
 2. BID ALTERNATES ARE SUBJECT TO PROJECT FUNDING.



Project:
TOWN OF GRAFTON



DEPARTMENT OF PUBLIC WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12


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Reviewed By: JIP

Approved By: JRF

W&S Project No: 2180199

W&S File No: -

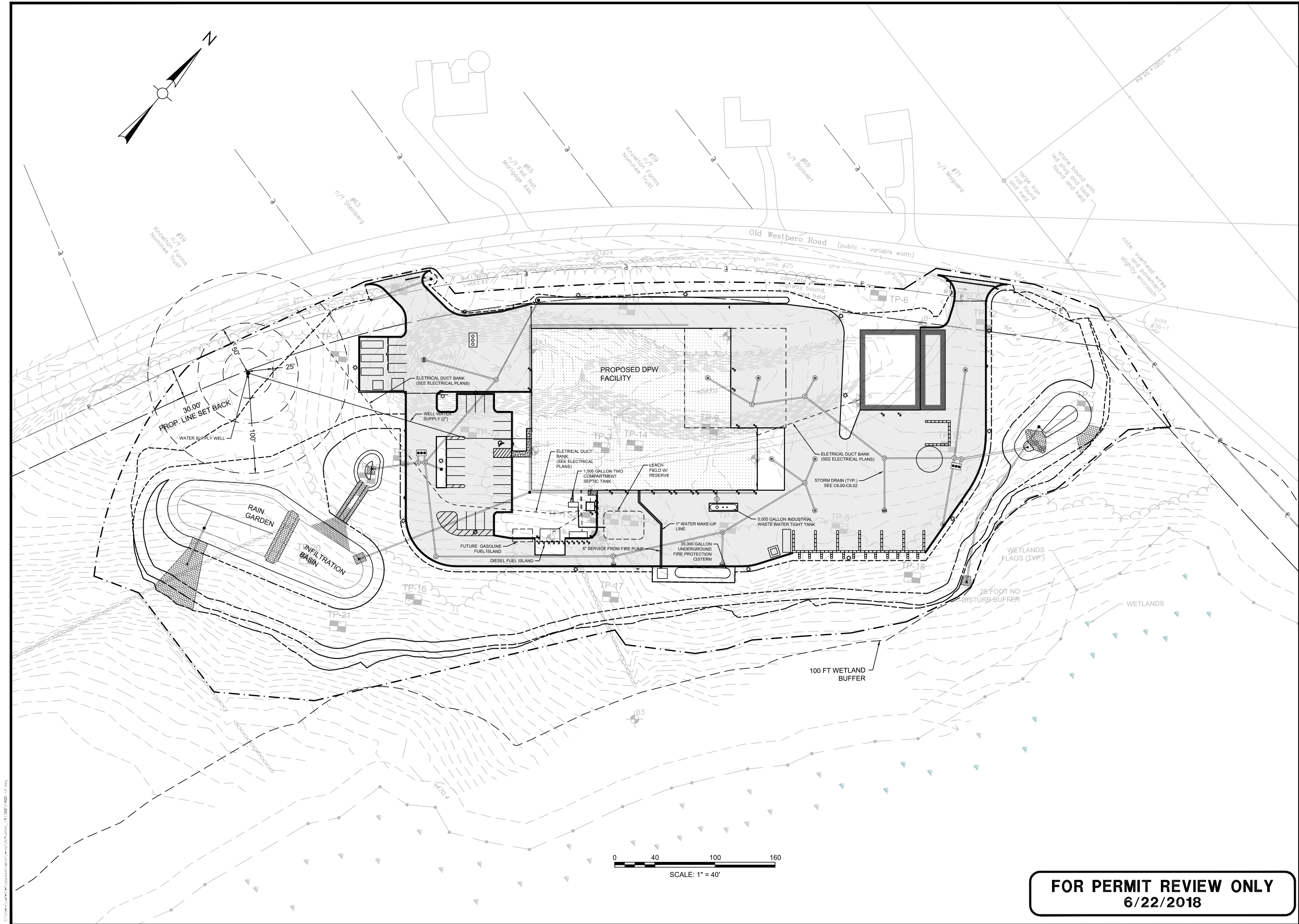
Drawing Title:

LAYOUT AND MATERIALS (NORTH)


Sheet Number:

C3.02

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Project:
TOWN OF GRAFTON


DEPARTMENT OF PUBLIC WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

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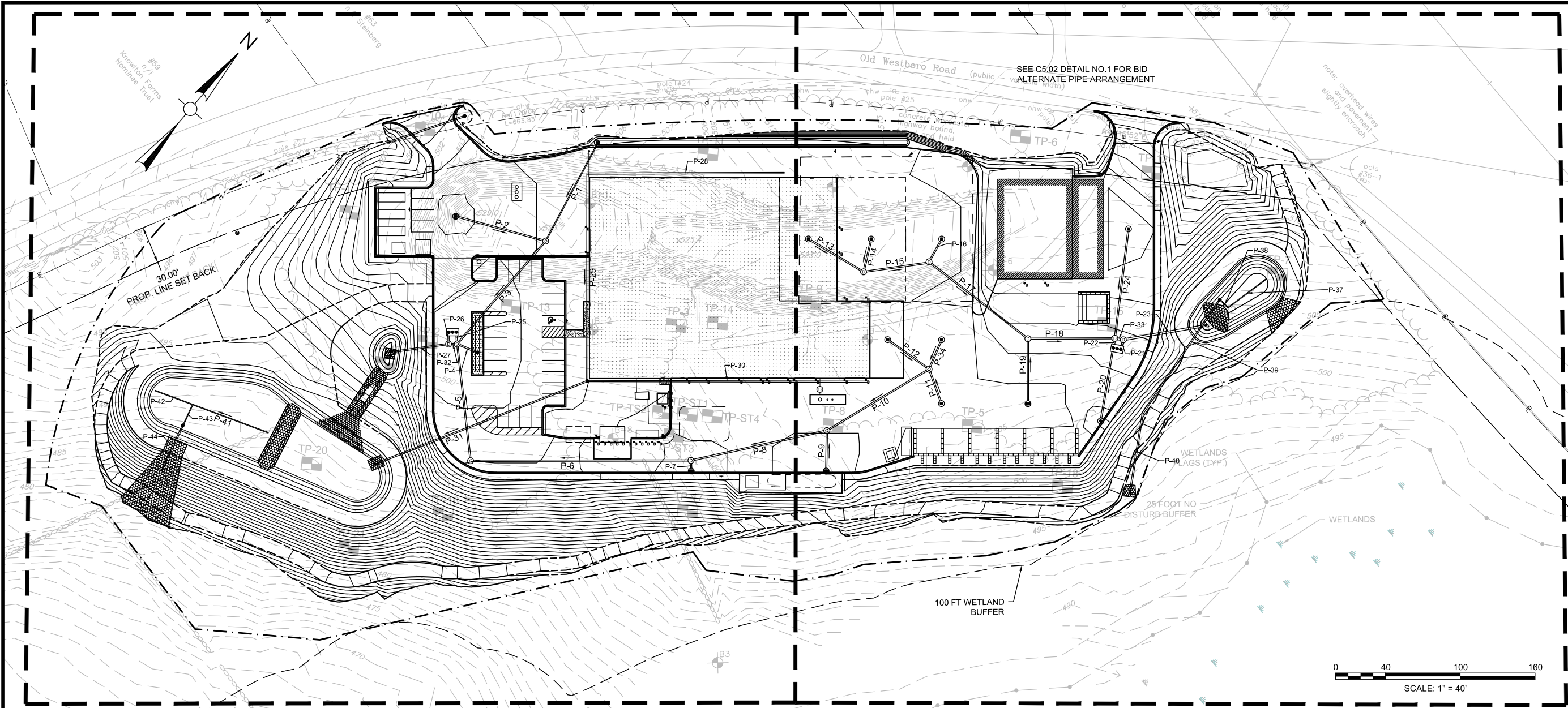
Scale: AS NOTED
Date: JUNE 22, 2018
Drawn By: TJC
Reviewed By: JIP
Approved By: JRF
W&S Project No: 2180199
W&S File No: -

Drawing Title:
UTILITY PLAN

Sheet Number:
C4.00

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6/22/2018

C:\Users\jfair\OneDrive\Documents\Projects\Grafton\Grafton DPW Facility\Grafton DPW Facility.dwg



NOTES:

- ALL EXISTING EARTHWORK MATERIALS MAY BE INCORPORATED IN THE WORK IF IN ACCORDANCE WITH THE SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL BACKFILL MATERIALS AS NEEDED AND AS SPECIFIED IN SECTION 31 23 00 (EARTHWORK). NO ON-SITE BACKFILL MATERIAL MAY BE USED AS PIPE TRENCH BACKFILL OR BELOW THE BUILDING SLAB AND FOUNDATION, UNLESS IT IS SHOWN TO MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
- UNLESS OTHERWISE NOTED ALL DRAIN PIPES SHALL BE 12" HIGH DENSITY POLYETHYLENE (HDPE).
- UNLESS OTHERWISE NOTED, ALL DRAIN MANHOLES SHALL BE 4' DIAMETER.
- ALL RIM ELEVATIONS SHALL BE FLUSH WITH FINISH GRADE.
- DUMPSTER PAD SHALL SLOPE AT A MINIMUM 2% INTO THE PAVED AREA.
- ALL CATCH BASINS LOCATED ALONG THE EDGE OF PAVEMENT SHALL BE SET FLUSH AGAINST THE HMA BERM.
- EROSION CONTROL FABRIC "A" SHALL BE USED FOR ALL SLOPES 3:1 OR STEEPER.
- PROPOSED UTILITIES ARE SHOWN ON THIS SHEET IN GRAY FOR ILLUSTRATION PURPOSES. SEE SHEET C5.01 FOR PROPOSED UTILITIES.
- FOR THE ROOF DRAIN LINES RUNNING ADJACENT TO THE DPW FACILITY BUILDING, THE CONTRACTOR SHALL INSTALL CLEAN OUTS AT THE END OF THE PIPE LINE, AT ANY LOCATION WHERE THE PIPE CHANGES DIRECTIONS, AND AT 100 FOOT INTERVALS AS NEEDED. CLEAN OUTS LOCATED IN PAVED AREAS SHALL BE INSTALLED TO PROVIDE H-20 WHEEL LOAD RATING.
- PIPE LENGTHS PROVIDED IN TABLE IS MEASURING FROM CENTER TO CENTER ON STRUCTURES.

MAIN SITE PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	START INV.	END INV.
P-1	8" HDPE	90	0.006	501.000	500.500
P-2	12" HDPE	75	0.009	501.183	500.500
P-3	12" HDPE	109	0.005	500.250	499.700
P-4	12" HDPE	18	0.011	500.500	500.300
P-5	12" HDPE	94	0.005	499.800	499.320
P-6	12" HDPE	177	0.005	500.870	499.980
P-7	12" HDPE	9	0.011	502.000	501.910
P-8	12" HDPE	112	0.005	501.530	500.970
P-9	12" HDPE	33	0.005	501.800	501.636
P-10	12" HDPE	96	0.005	502.700	502.200
P-11	12" HDPE	29	0.005	502.960	502.810
P-12	12" HDPE	41	0.005	503.000	502.796
P-13	12" HDPE	52	0.005	503.200	502.940
P-14	12" HDPE	27	0.006	503.150	503.000
P-14 (ALT)	12" HDPE	45	0.010	503.150	502.680
P-15	12" HDPE	52	0.005	502.840	502.580
P-16	12" HDPE	21	0.005	502.690	502.580
P-17	12" HDPE	101	0.005	502.480	501.980
P-18	12" HDPE	70	0.005	501.880	501.530
P-19	12" HDPE	52	0.016	502.800	501.980

MAIN SITE PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	START INV.	END INV.
P-20	12" HDPE	59	0.025	503.160	501.700
P-21	18" HDPE	9	0.003	501.400	501.375
P-22	18" HDPE	8	0.004	501.430	501.400
P-23	18" HDPE	65	0.005	501.330	501.000
P-24	12" HDPE	89	0.028	504.500	502.000
P-25	12" HDPE	10	0.010	499.000	498.900
P-26	12" HDPE	12	0.008	498.800	498.700
P-27	12" HDPE	44	0.014	498.600	498.000
P-28	12" HDPE	158	0.011	504.000	502.250
P-29	12" HDPE	167	0.006	502.000	501.000
P-30	12" HDPE	225	0.013	504.000	501.000
P-31	12" HDPE	181	0.047	500.000	491.500
P-32	12" HDPE	7	0.097	500.320	499.650
P-33	18" HDPE	7	0.089	503.610	503.000
P-34	12" HDPE	26	0.005	502.900	502.770
P-35 (ALT)	12" HDPE	85	0.012	504.000	503.000
P-36 (ALT)	12" HDPE	70	0.006	503.000	502.580
P-45	12" HDPE	61	0.011	500.650	500.000

NORTH POND PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	START INV.	END INV.
P-37	6" HDPE	39	0.000	497.580	497.580
P-38	6" HDPE	9	0.000	497.580	497.580
P-39	12" HDPE	111	0.005	497.580	497.030
P-40	12" HDPE	62	0.005	497.030	496.720

SOUTH POND PIPE TABLE					
PIPE	SIZE & TYPE	LENGTH	SLOPE	START INV.	END INV.
P-41	6" HDPE	65	0.000	488.580	488.580
P-42	6" HDPE	32	0.000	488.580	488.580
P-43	6" HDPE	18	0.000	488.580	488.580
P-44	12" HDPE	37	0.015	488.580	488.000

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Project:
TOWN OF GRAFTON


DEPARTMENT OF PUBLIC WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12


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Reviewed By: JIP

Approved By: JRF

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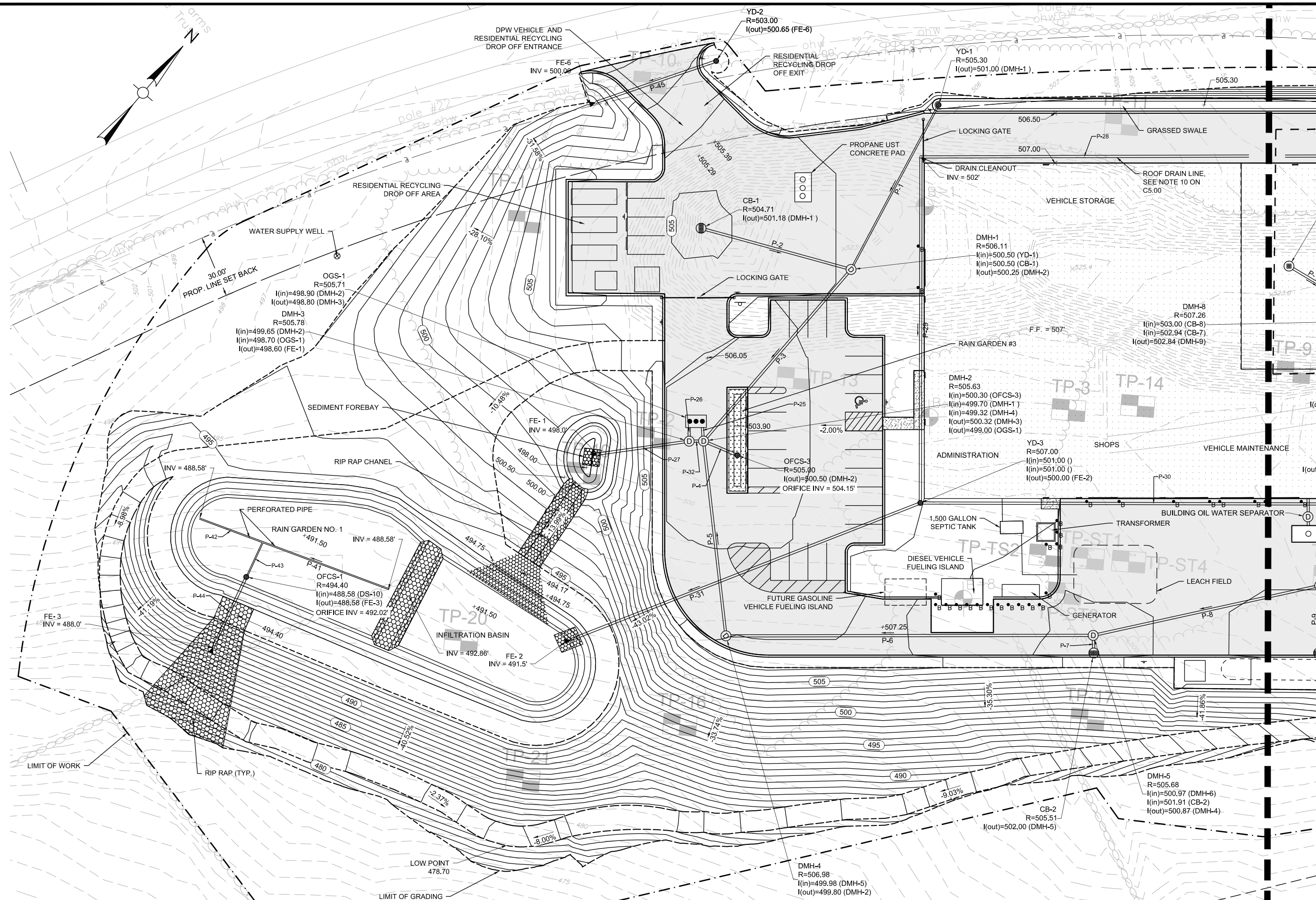
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Drawing Title:

GRADING AND
DRAINAGE
PLAN

Sheet Number:

C5.00



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Project:
TOWN OF GRAFTON



48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
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Scale: AS NOTED

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Drawn By:

Reviewed By:

Approved By:

W&S Project No: 2180199

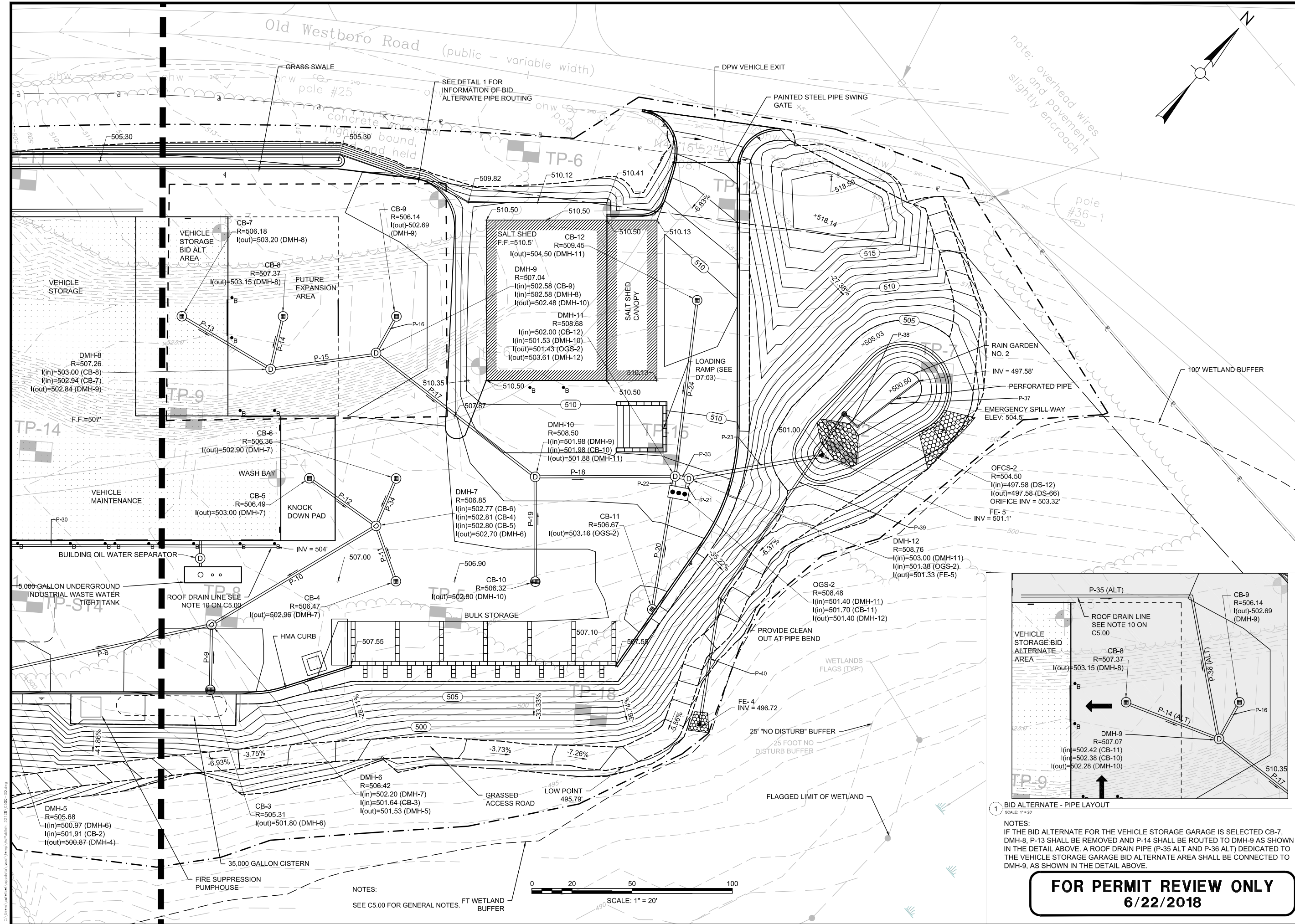
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Drawing Title:


GRADING AND
DRAINAGE
PLAN
(SOUTH)

Sheet Number:

C5.01



Project:
TOWN OF GRAFTON


DEPARTMENT OF PUBLIC WORKS


48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12

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No.	Date	Description

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Date: JUNE 22, 2018

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Reviewed By: JIP

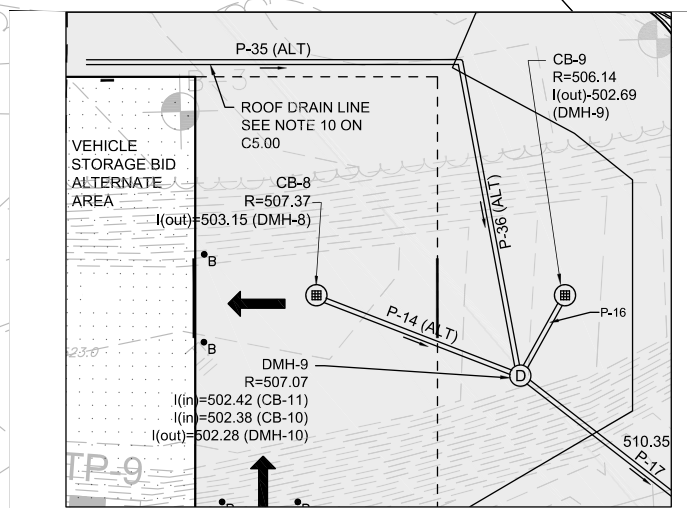
Approved By: JRF

W&S Project No: 2180199

W&S File No: -

Drawing Title:
GRADING AND DRAINAGE PLAN (NORTH)

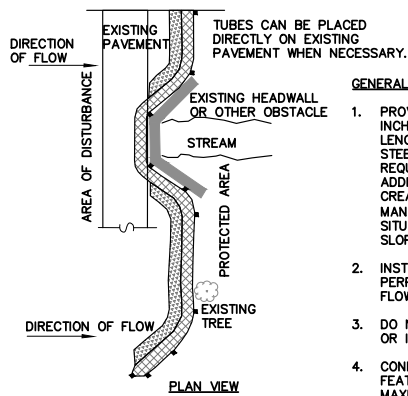
Sheet Number:
C5.02



1 BID ALTERNATE - PIPE LAYOUT
SCALE: 1" = 20'

NOTES:
IF THE BID ALTERNATE FOR THE VEHICLE STORAGE GARAGE IS SELECTED CB-7, DMH-8, P-13 SHALL BE REMOVED AND P-14 SHALL BE ROUTED TO DMH-9 AS SHOWN IN THE DETAIL ABOVE. A ROOF DRAIN PIPE (P-35 ALT AND P-36 ALT) DEDICATED TO THE VEHICLE STORAGE GARAGE BID ALTERNATE AREA SHALL BE CONNECTED TO DMH-9, AS SHOWN IN THE DETAIL ABOVE.

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6/22/2018



PLACING TUBES AGAINST THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

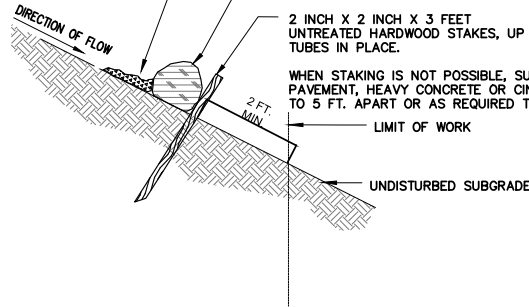
CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

GENERAL NOTES:

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.

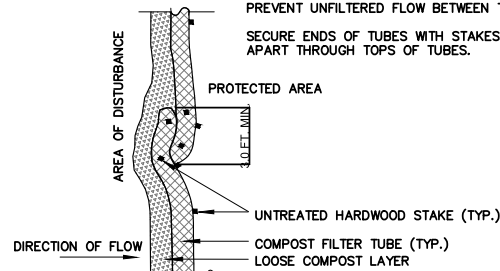
5. MULCH MATERIAL FOR THE FILTER TUBES SHALL BE WEED-FREE STRAW, WOOD EXCELSIOR, COMPOST, OR WOOD CHIPS, OR COIR. STRAW SHALL BE WEED FREE AND DERIVED FROM THRESHING OF GRAIN CROP.

2 IN. DEEP x 12 IN. WIDE LAYER OF LOOSE COMPOST MATERIAL PLACED ON UPHILL/FLOW SIDE OF TUBES TO FILL SPACE BETWEEN SOIL SURFACE AND TUBES.



PROVIDE A 3 FT. MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.

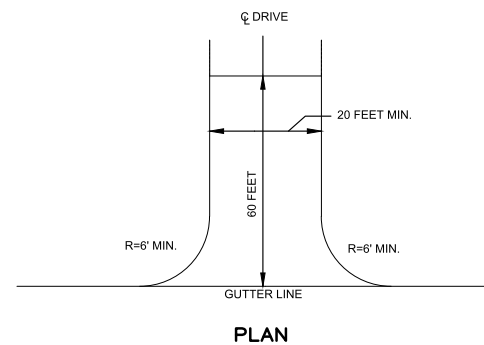
SECURE ENDS OF TUBES WITH STAKES SPACED 18 IN. APART THROUGH TOPS OF TUBES.



PLAN VIEW - JOINING DETAIL

1 EROSION CONTROL MEASURE: SINGLE COMPOST FILTER TUBE DETAIL

SCALE: N.T.S.

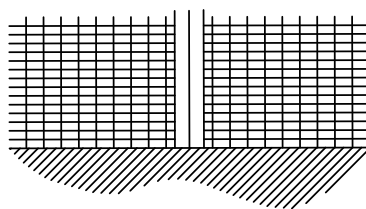


NOTES:

1. AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE PLACED AT EACH ENTRANCE TO THE SITE, THROUGHOUT CONSTRUCTION ACTIVITIES.
2. THE LOCATION OF THE CONSTRUCTION ENTRANCE(S) SHALL BE APPROVED BY THE OWNER PRIOR TO PLACEMENT.
3. CONSTRUCTION ENTRANCE(S) SHALL CONSIST OF 2" CRUSHED STONE PLACED AT A DEPTH OF A MINIMUM 8 INCHES PLACED OVER GEOTEXTILE FABRIC.
4. CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION AND ALL NECESSARY MAINTENANCE OF ALL ENTRANCES.
5. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SEDIMENTS OR ANY OTHER MATERIALS TRACKED ONTO THE STREET, AS WELL MAINTENANCE OF EROSION CONTROL MEASURES.

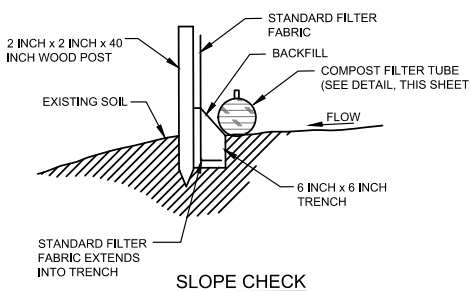
2 STABILIZED TEMPORARY CONSTRUCTION ENTRANCE

SCALE: N.T.S.



WHEN JOINING TWO OR MORE SILTATION FENCES TIE THE TWO END POSTS TOGETHER WITH NYLON CORD.

DITCH CHECK

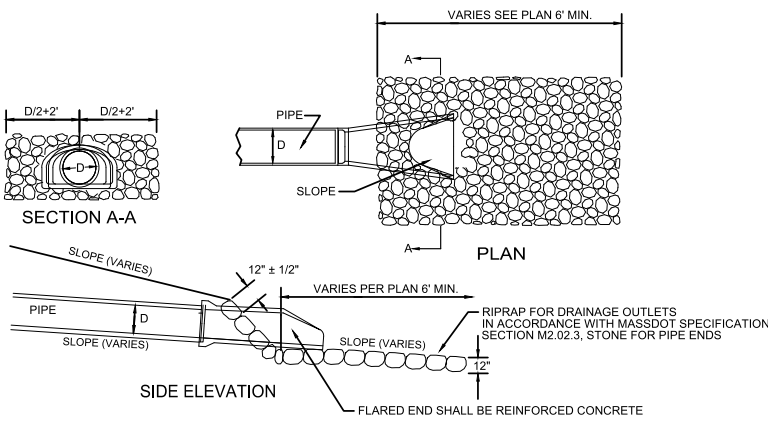
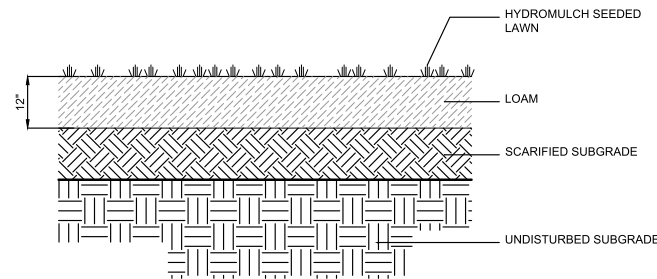


5 SILT FENCE- EROSION CONTROL

SCALE: N.T.S.

3 LOAM & SEED

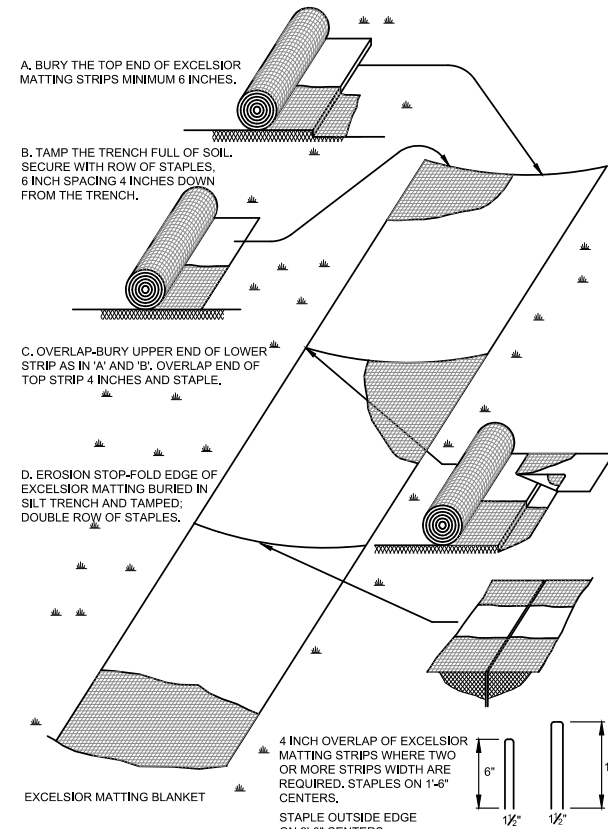
SCALE: N.T.S.



6 FLARED END PIPE DETAIL

SCALE: N.T.S.

1. EROSION CONTROL MEASURES SHALL BE INCORPORATED IN THE SEQUENCE OF CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE.
2. AREAS SUBJECT TO EROSION SHALL BE MINIMIZED IN TERMS OF TIME AND AREA.
3. IN GENERAL, WORK REQUIRING EROSION CONTROL INCLUDES EXCAVATIONS, FILLS, DRAINAGE, SWALES AND DITCHES, ROUGH AND FINISH GRADING, AND STOCKPILING OF EARTH.
4. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT OF SILT FENCE ACTIVITIES.
5. TEMPORARY SILT CONTROLS SHALL BE PLACED AS SHOWN ON THE PLAN. PERMANENTLY STABILIZE EACH COMPLETED SEGMENT OF CONSTRUCTION.
6. THE CONTRACTOR SHALL REMOVE TEMPORARY SILT CONTROLS AND ALL ACCUMULATED SILT AND DEBRIS AFTER COMPLETION OF CONSTRUCTION OPERATIONS.
7. SILT CONTROLS SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL SILT AND DEBRIS FROM EACH DRAINAGE STRUCTURE UPON COMPLETION OF THE PROJECT.
9. OBJECTS AND/OR AREAS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
10. ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING GRADE. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS NEEDED.
11. SILT CONTROLS SHALL BE REMOVED UPON THE SATISFACTORY COMPLETION OF ALL WORK SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
12. SITE PERIMETER SHALL HAVE COMPOST FILTER TUBES INSTALLED AS SHOWN ON C2.00.



NOTE: JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4H:1V AS INDICATED ON GRADING PLANS

4 EROSION CONTROL BLANKET

SCALE: N.T.S.

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6/22/2018

Project:
TOWN OF GRAFTON



DEPARTMENT OF PUBLIC WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12

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Consultants:

Revisions:

No.	Date	Description

Seal:



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Scale: AS NOTED

Date: JUNE 22, 2018

Drawn By: TJC

Reviewed By: JIP

Approved By: JRF

W&S Project No: 2180199

W&S File No: -

Drawing Title:

DETAILS I

Sheet Number:

C7.01

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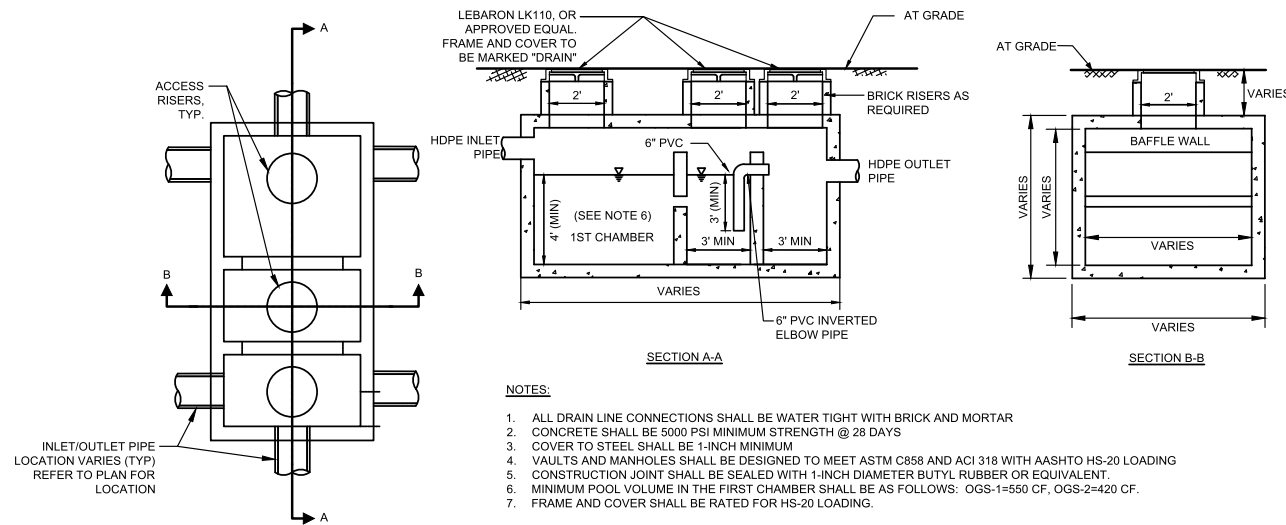
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DETAILS II

Sheet Number:

C7.02

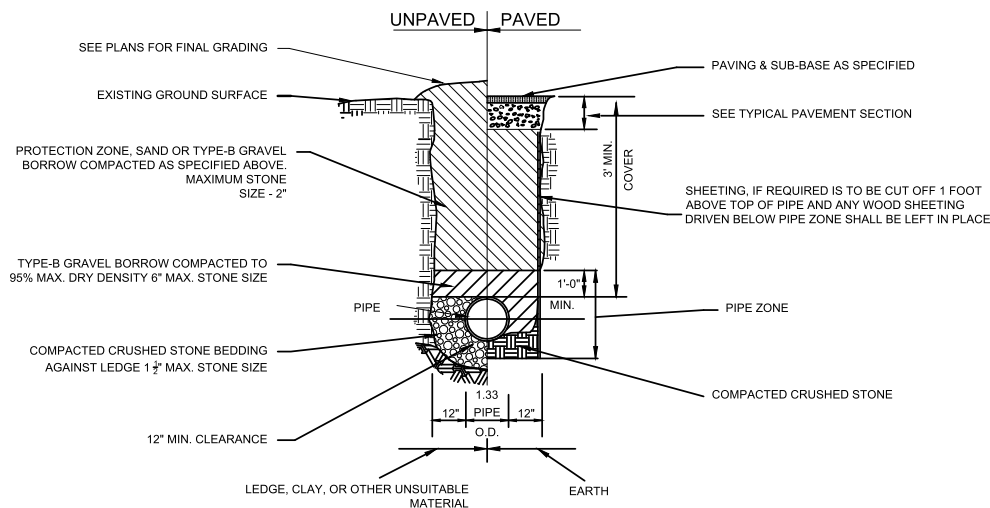
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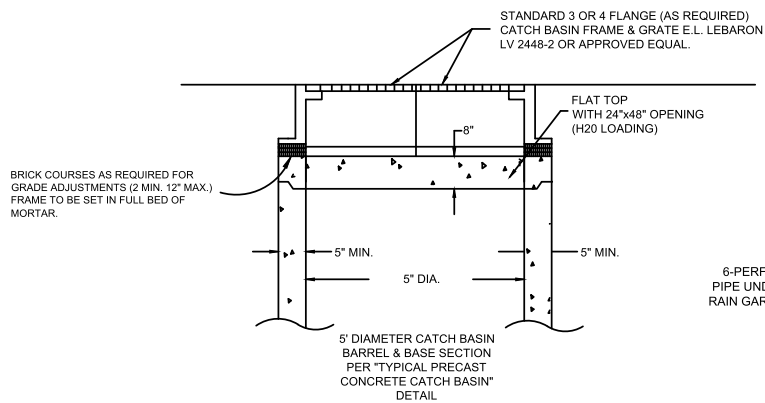
1 OIL GRIT SEPARATOR
SCALE: N.T.S.

- NOTE:
1. DOWNSPOUT DETAIL IS TYPICAL FOR ALL BUILDING GUTTER DOWNSPOUTS.
 2. REFER TO ARCHITECTURAL PLANS FOR EXACT QUANTITY & LOCATION.
 3. COORDINATE WITH CIVIL SITE PLANS FOR CONNECTIONS TO STORM SYSTEM.
 4. PROVIDE A DOWNSPOUT BOOT AT EACH DOWNSPOUT TO ALLOW THE RECTANGULAR DOWNSPOUT TO TRANSITION TO THE ROUND CAST IRON RECEPTOR PIPE.
 5. PAINT DOWNSPOUT ADAPTER BY PAINTING SUBCONTRACTOR. COLOR AS SELECTED BY THE ENGINEER.
 6. DOWNSPOUT ADAPTER SHALL BE MANUFACTURED BY J.R. HOE AND SONS, NEENAH FOUNDRY, PIEDMONT MANUFACTURING OR APPROVED EQUAL.

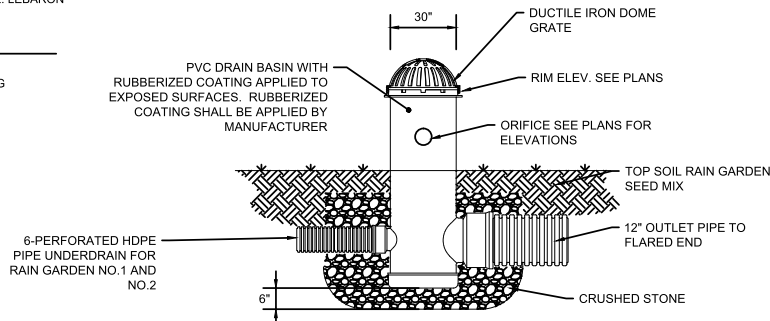
2 GUTTER DOWNSPOUT CONNECTION DETAIL (EXTERNAL)
SCALE: N.T.S.



3 TYPICAL H.D.P.E DRAIN TRENCH DETAIL
SCALE: N.T.S.

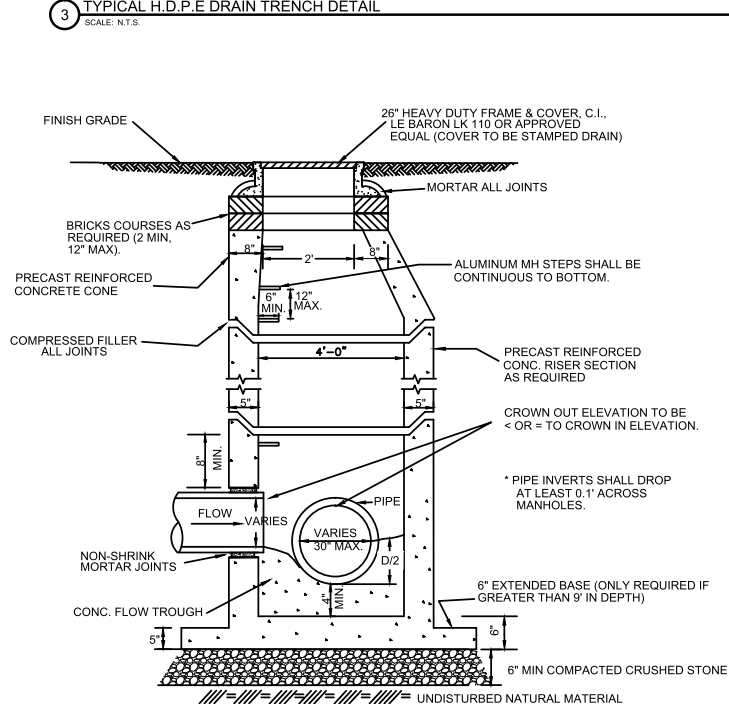


4 DOUBLE GRATE CATCH BASIN
SCALE: N.T.S.

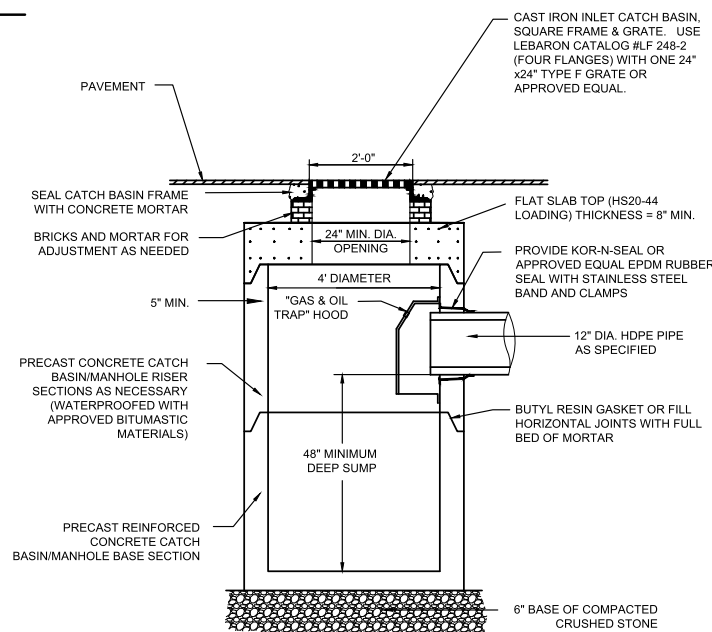


5 OVERFLOW CONTROL STRUCTURE (RAIN GARDENS)
SCALE: N.T.S.

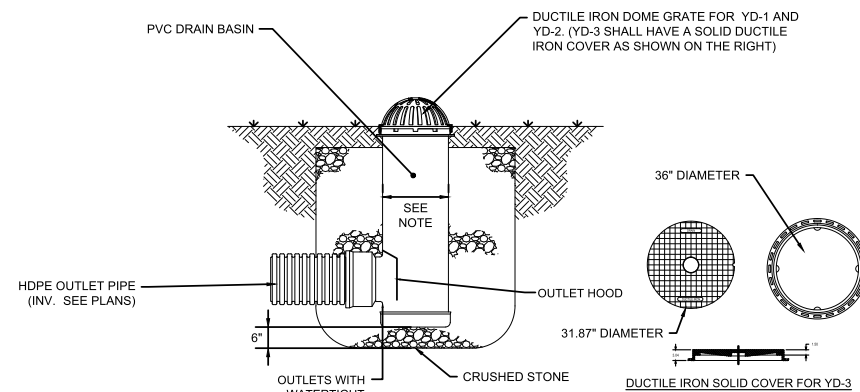
- NOTES:
1. OVERFLOW CONTROL STRUCTURES SHALL BE AS MANUFACTURED BY NYLOPLAST OR APPROVED EQUAL.



6 TYPICAL PRECAST CONCRETE DRAIN MANHOLE
SCALE: N.T.S.



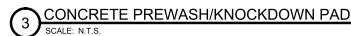
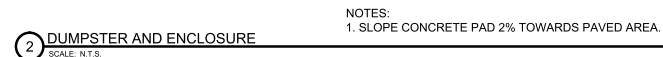
7 STANDARD CATCH BASIN
SCALE: N.T.S.

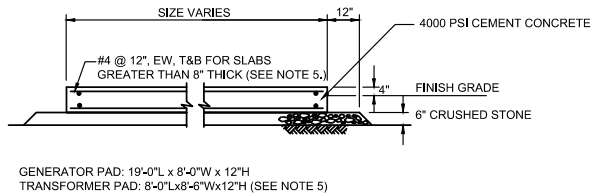


8 YARD DRAIN DETAIL
SCALE: N.T.S.

- NOTES:
1. YARD DRAINS NO.1 AND NO.2 SHALL BE 24-INCHES IN DIAMETER WITH 24-INCH DUCTILE IRON DOME GRATE. YARD DRAIN NO.3 SHALL BE 30-INCHES IN DIAMETER WITH 30-INCH SOLID DUCTILE IRON COVER.
 2. OVERFLOW CONTROL STRUCTURES SHALL BE AS MANUFACTURED BY NYLOPLAST OR APPROVED EQUAL.

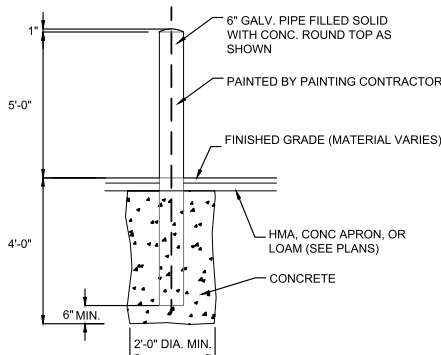
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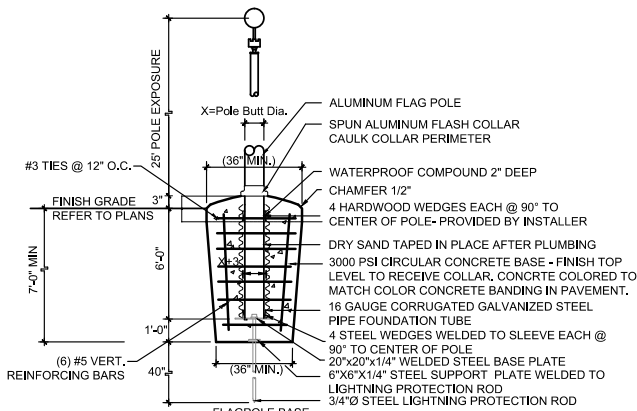
1 CONCRETE PAD
SCALE: N.T.S.

- NOTES:
1. GENERAL CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL CONCRETE PADS.
 2. SEE LAYOUT AND GRADING PLANS FOR FINISH GRADE
 3. COORDINATE WITH ALL CONTRACTORS AND ADJUST PAD LOCATIONS AND DIMENSIONS IN FIELD
 4. SLABS 8" OR LESS IN THICKNESS SHALL HAVE ONE LAYER OF REINFORCING PLACED IN THE TOP ONE THIRD OF THE SLAB.
 5. CONTRACTOR TO PROVIDE TRANSFORMER FOUNDATION IN CONFORMANCE WITH NATIONAL GRID SPECIFICATIONS



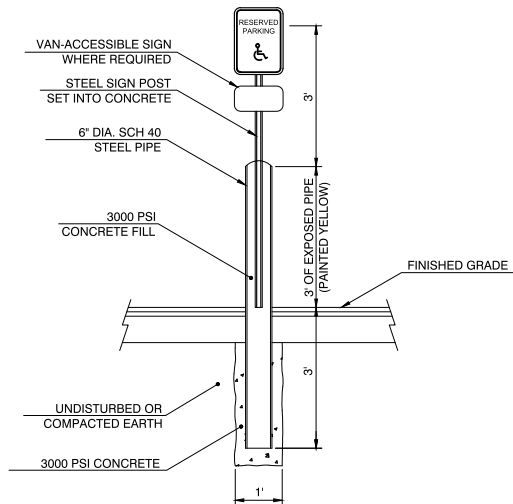
- NOTES:
1. SEE C3.00 SERIES FOR BOLLARD LOCATIONS.
 2. BOLLARD FOUNDATION CONCRETE TO BE 3000 PSI MIN.
 3. EXACT LOCATION TO BE DETERMINED IN THE FIELD AND APPROVED BY TOWN BEFORE INSTALLATION.
 4. 6" GALVANIZED PIPE PROVIDED BY MISC. METALS CONTRACTOR. INSTALLATION AND CONCRETE BY GENERAL CONTRACTOR.

2 STEEL PIPE BOLLARD WITH HDPE SLEEVE
SCALE: N.T.S.



- NOTES:
1. FULL EXCAVATION DEPTH EQUALS LENGTH OF FOUNDATION TUBE PLUS, 1'-0".
 2. CONFIRM LOCATION OF FLAGPOLE IN FIELD.
 3. DETAIL PROVIDED FOR ILLUSTRATION ONLY. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN TO MEET PROJECT SOIL CONDITIONS.

3 FLAGPOLE DETAIL
SCALE: N.T.S.



- NOTE:
1. LOCATE CENTER OF 6" STEEL PIPE 1" FROM EDGE OF PARKING.
 2. ALL SIGNS TO BE CENTERED ON PARKING SPACE.

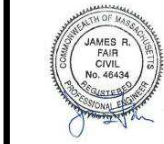
4 ACCESSIBLE SIGN AND POST DETAIL
SCALE: N.T.S.

Consultants:

Revisions:

No.	Date	Description

Seal:



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Scale: AS NOTED

Date: JUNE 22, 2018

Drawn By: TJC

Reviewed By: JIP

Approved By: JRF

W&S Project No: 2180199

W&S File No: -

Drawing Title:

DETAILS IV

Sheet Number:

C7.04

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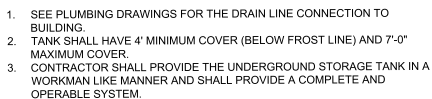
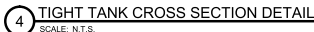


- 2 MODIFIED 1' WIDE CAPE COD BERM WITH 1" REVEAL
SCALE: N.T.S.



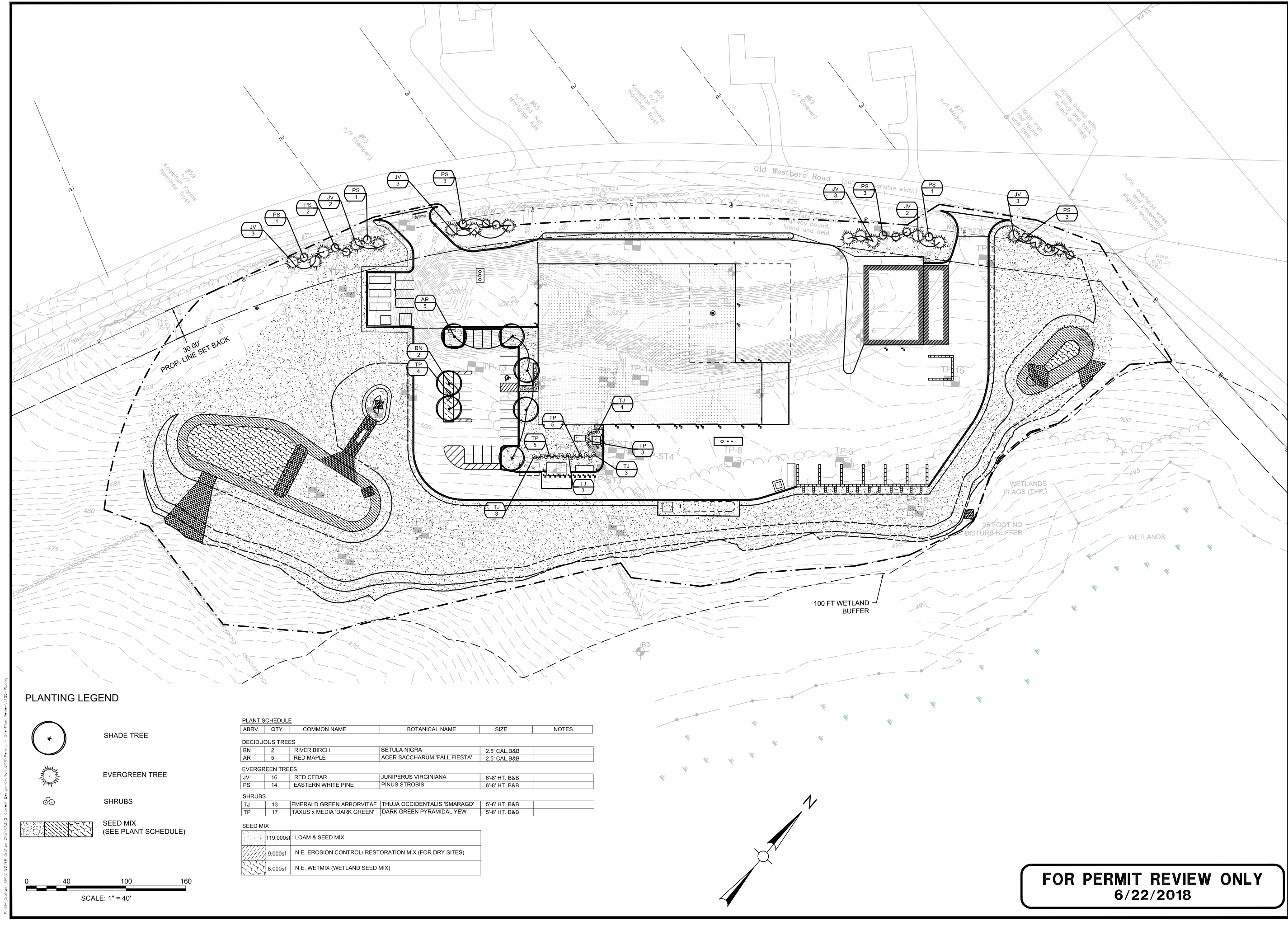
PLAN VIEW

- 5 4000 PSI CONCRETE TANK COVER PAD DETAIL
SCALE: N.T.S.



C7.05

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6/22/2018




PLANTING LEGEND

- SHADE TREE
- EVERGREEN TREE
- SHRUBS
- SEED MIX (SEE PLANT SCHEDULE)

PLANT SCHEDULE					
ABRV.	QTY	COMMON NAME	BOTANICAL NAME	SIZE	NOTES
DECIDUOUS TREES					
BN	2	RIVER BIRCH	BETULA NIGRA	2.5' CAL B&B	
AR	5	RED MAPLE	ACER SACCHARUM 'FALL FIESTA'	2.5' CAL B&B	
EVERGREEN TREES					
JV	16	RED CEDAR	JUNIPERUS VIRGINIANA	6'-8" HT. B&B	
PS	14	EASTERN WHITE PINE	PINUS STROBIS	6'-8" HT. B&B	
SHRUBS					
TJ	13	EMERALD GREEN ARBORVITAE	THUJA OCCIDENTALIS 'SMARAGD'	5'-6" HT. B&B	
TP	17	TAXUS x MEDIA 'DARK GREEN'	DARK GREEN PYRAMIDAL YEW	5'-6" HT. B&B	
SEED MIX					
	119,000sf	LOAM & SEED MIX			
	9,000sf	N.E. EROSION CONTROL/ RESTORATION MIX (FOR DRY SITES)			
	8,000sf	N.E. WETMIX (WETLAND SEED MIX)			


Project:
TOWN OF GRAFTON



DEPARTMENT OF PUBLIC WORKS

48 OLD WESTBORO ROAD
GRAFTON, MA 01519

OWNER: TOWN OF GRAFTON
ASSESSORS MAP: 48
LOT: 12




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Reviewed By: JIP
Approved By: JRF

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W&S File No: -

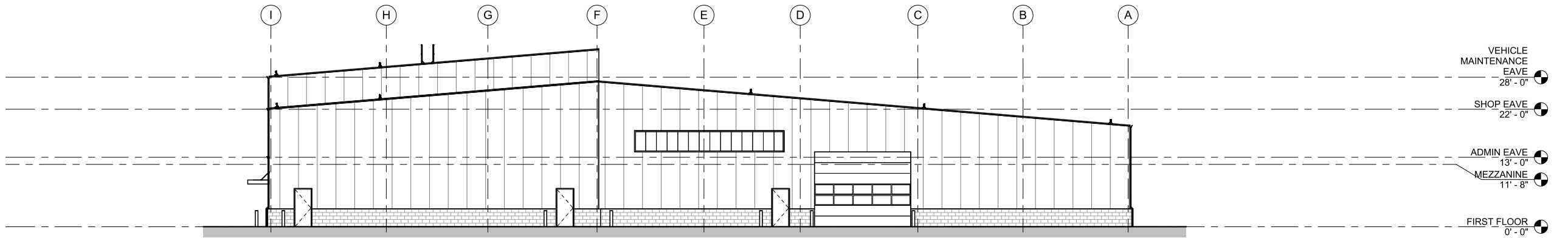
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PLANTING PLAN

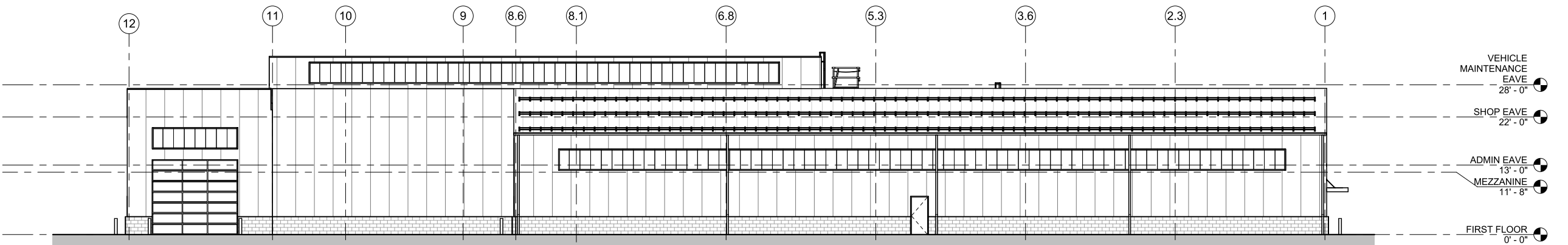
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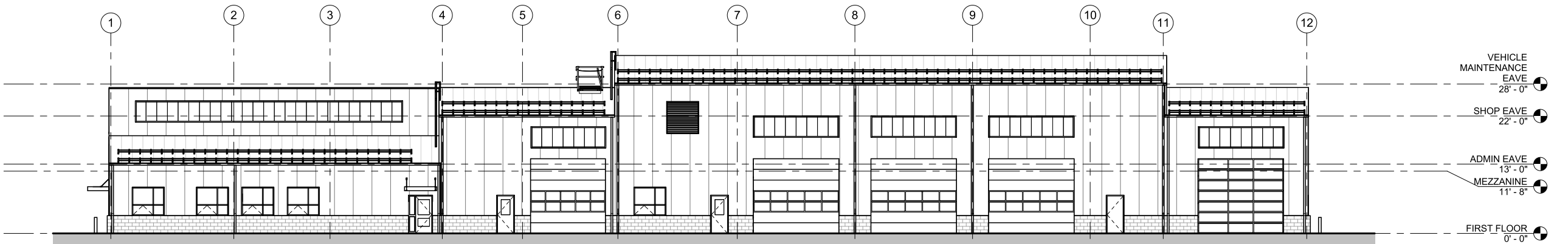
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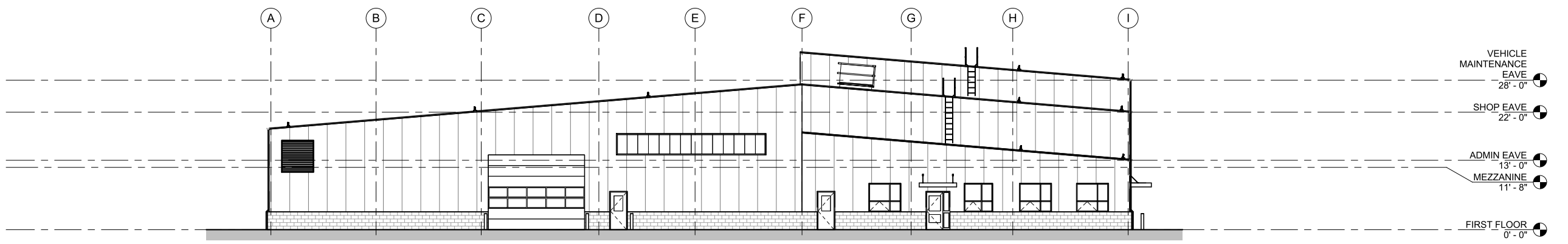
① EAST
1" = 10'-0"



② NORTH
1" = 10'-0"




③ SOUTH
1" = 10'-0"



④ WEST
1" = 10'-0"

FOR PERMIT REVIEW ONLY
06/22/2018

Project:
TOWN OF GRAFTON




GRAFTON DEPARTMENT OF
PUBLIC WORKS
OLD WESTBOROUGH ROAD,
GRAFTON, MA 01519

Weston & Sampson

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Rev	Date	Description

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PROJECT TRUE

SCALE: AS

Date: 4/5/2018
Drawn By: Author
Reviewed By: Checker
Approved By: Approver
W&S Project No: 2180199

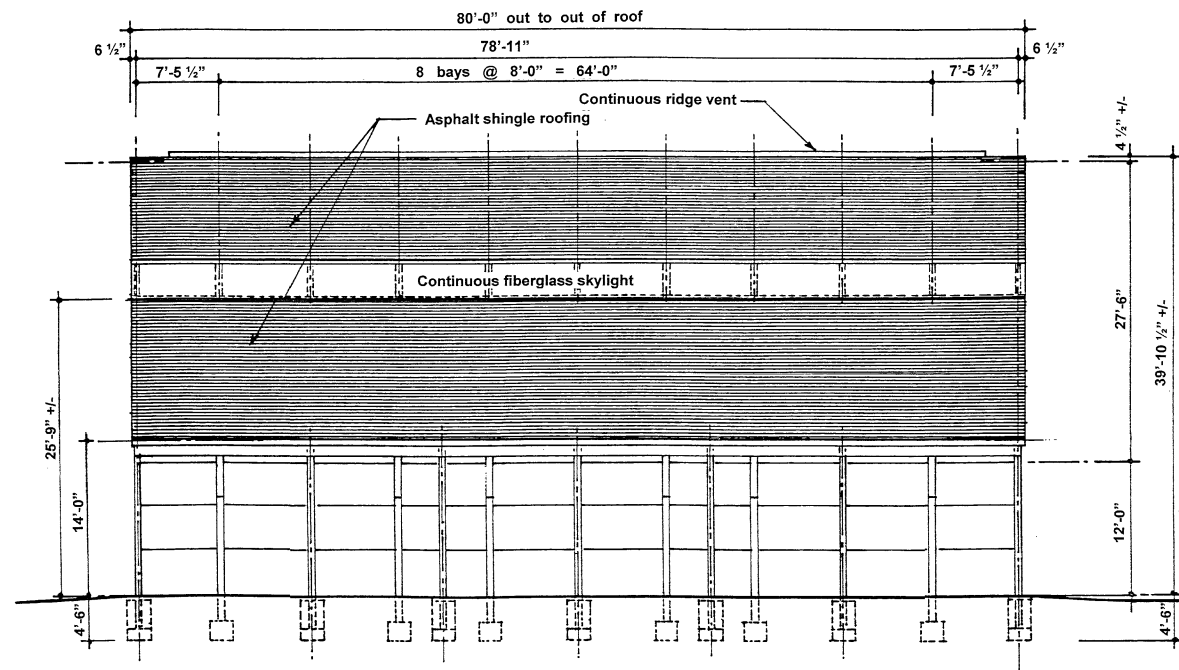
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OVERALL
ELEVATIONS

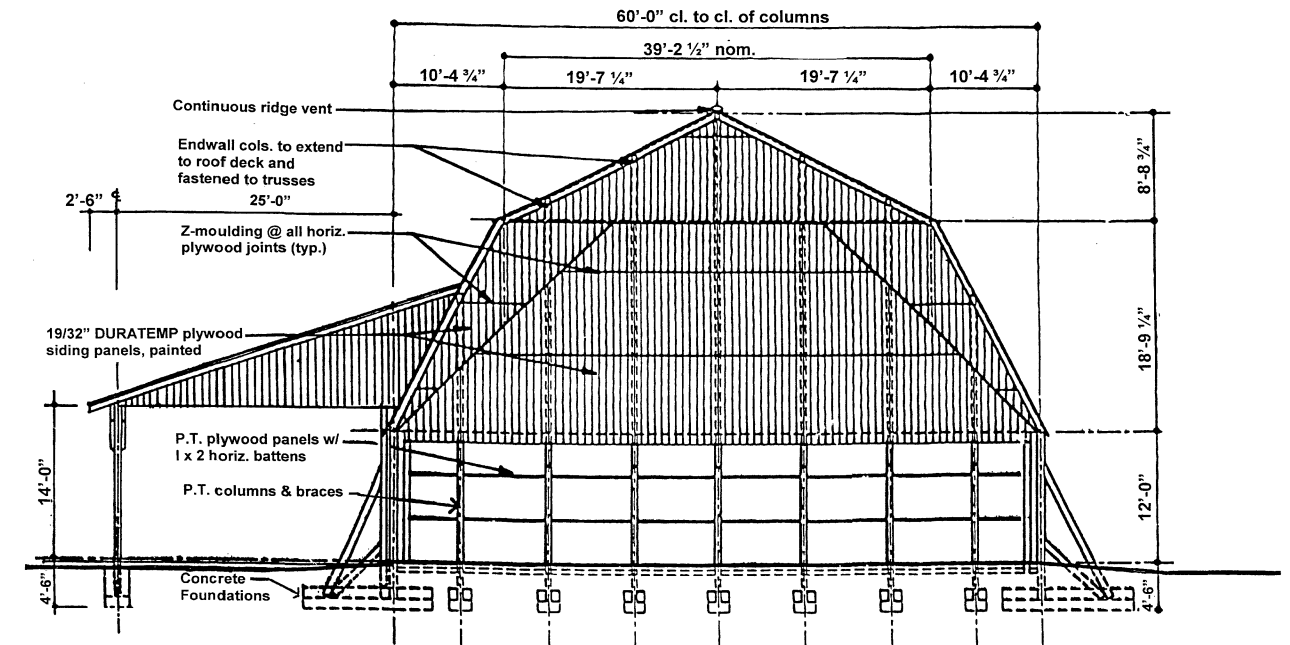
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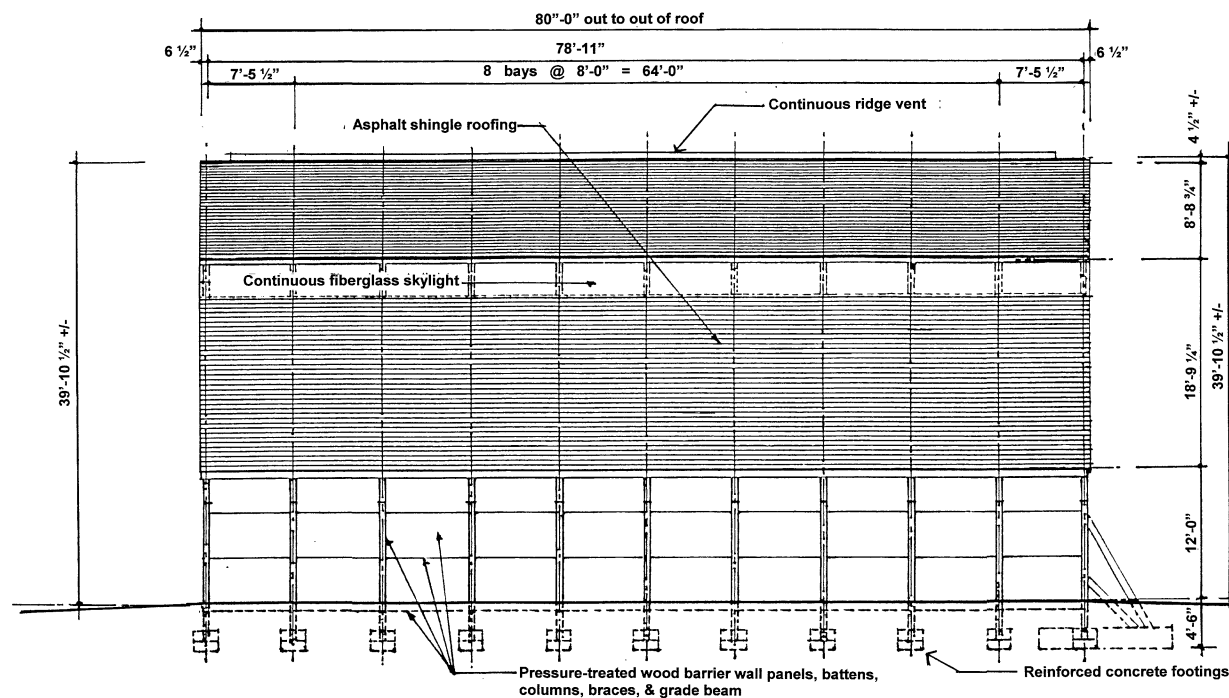
WESTON & SAMPSON COPYRIGHT 2018



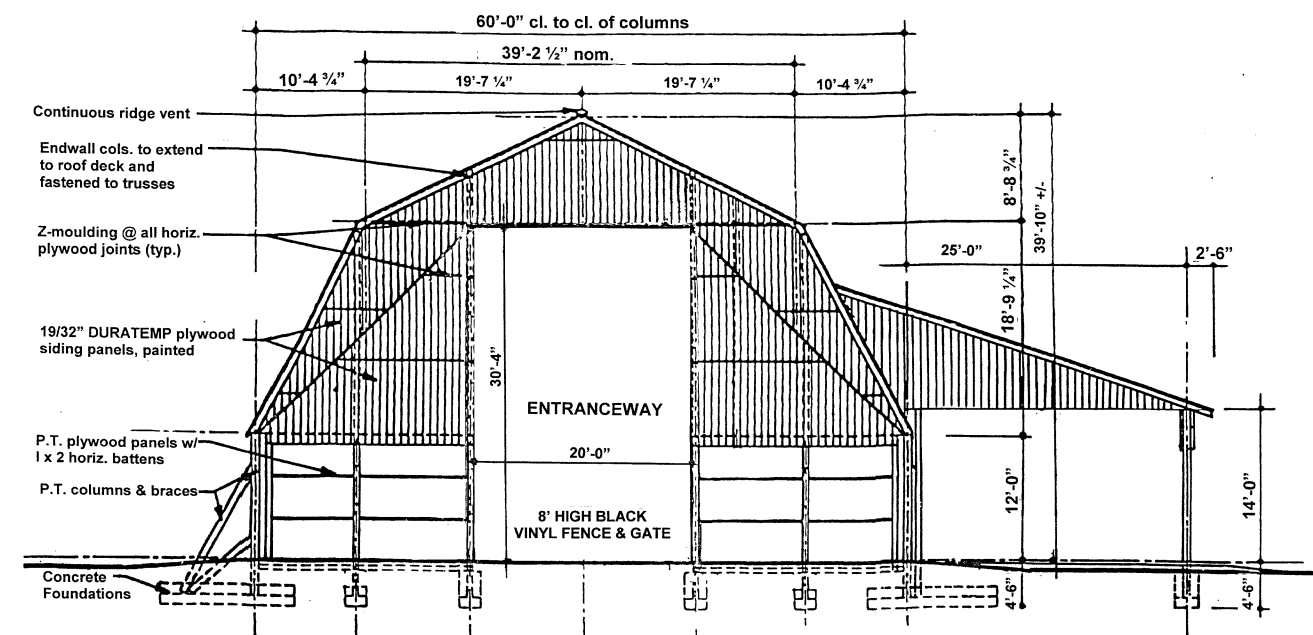
RIGHT SIDE ELEVATION SCALE 1/8" = 1'-0"



REAR ELEVATION SCALE: 1/8" = 1'-0"



LEFT SIDE ELEVATION SCALE 1/8" = 1'-0"



FRONT ELEVATION SCALE: 1/8" = 1'-0"

NEW 60' X 80' X 12'
SALT STORAGE BUILDING
TOWN OF GRAFTON, MASSACHUSETTS

BUILDING ELEVATIONS

AST
ADVANCED STORAGE TECHNOLOGY, INC.
4053 Maple Rd. Suite 106
Amherst, NY 14226-1058
Tel. 716-833-6212
www.saltstorage.com

Michael A. Sinniger, P.E.

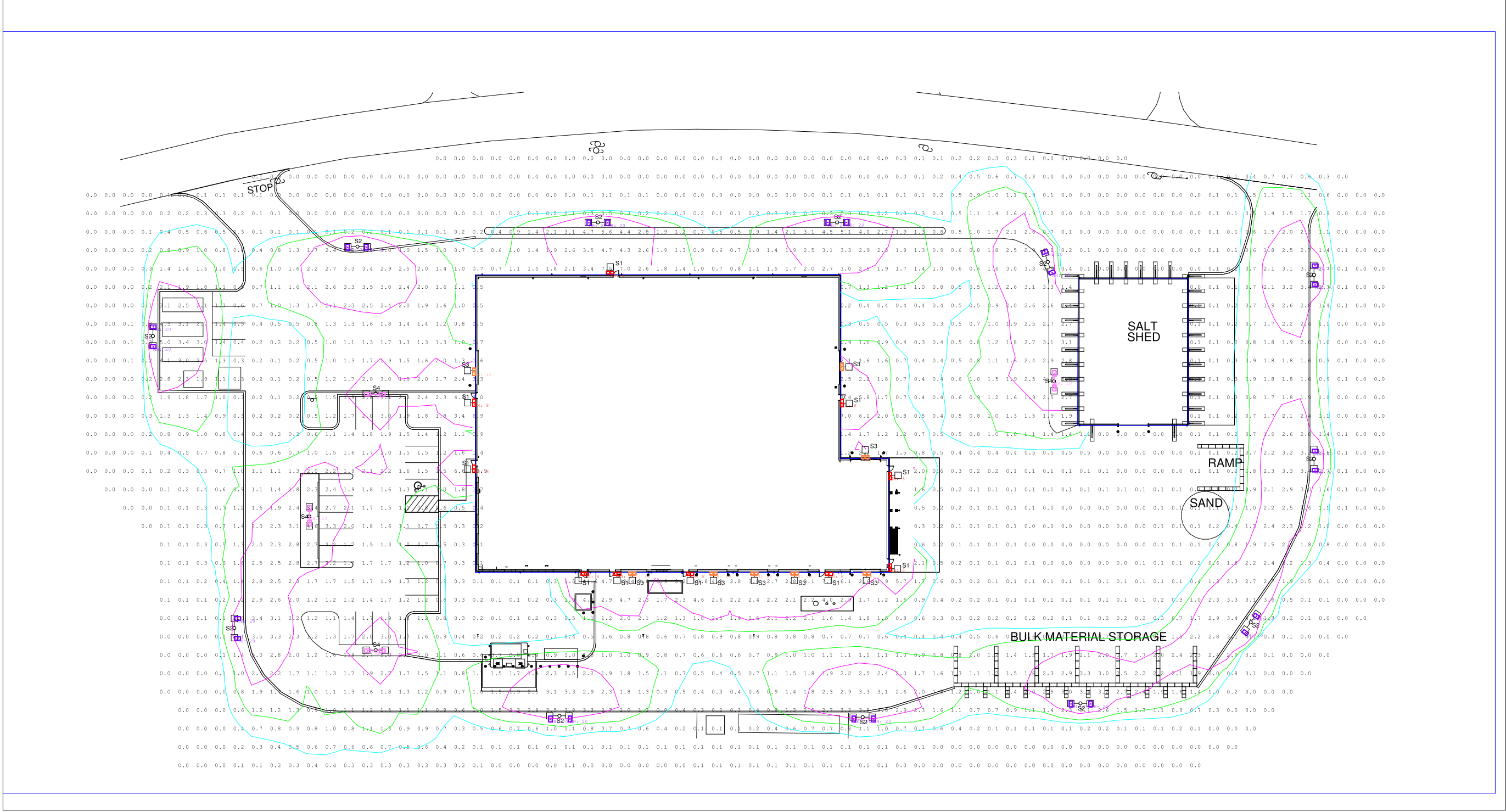
JAMES R. FAIR
CIVIL
No. 46434
Professional Seal

DRAWN	MO	JOB NO.
CHECKED	BB	
SCALE	AS NOTED	DWG. NO.
ISSUED	MAY 2018	A-1.02

#	Date	Comments
X	XX/XX	XXXXXXXXXX
Revisions		

DRAWN BY: D. EDGE
CHECKED BY:
DATE: 5.23.18
SPECIFIER:
SCALE: NTS

Grafton DPW
Grafton, MA



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	24	S2-HSS	SINGLE	N.A.	0.900	GLEON-AF-01-LED-E1-SL3-HSS
	4	S4	BACK-BACK	N.A.	0.900	GLEON-AF-01-LED-E1-SL3
	8	S3	SINGLE	N.A.	0.900	LDWP-GL-3B-ED
	10	S1	SINGLE	N.A.	0.900	LDWP-GL-3B-ED

Calculation Summary

Label	Units	Avg	Max	Min	Avg/Min	Max/Min
Site_Planar	Fc	0.99	13.9	0.0	N.A.	N.A.

SITE LIGHTING PLAN
E-1.01